

GENERAL ELECTRIC



TELEVISION

SERVICE INFORMATION

MASTER

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19 PC CHASSIS

25 PC CHASSIS

PC CHASSIS

PC CHASSIS MODEL INDEX

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(NOTE: *THESE PAGES HAVE NOT BEEN ISSUED AT THIS TIME)

SERVICE INFORMATION

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(NOTE: *THESE PAGES HAVE NOT BEEN ISSUED AT THIS TIME)

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GENERAL ELECTRIC

TELEVISION

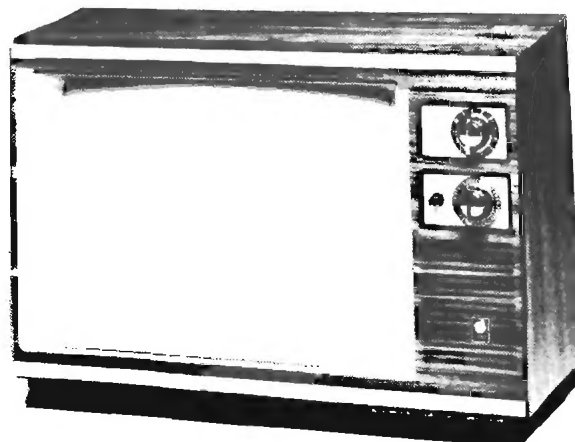
SERVICE INFORMATION

TELEVISION
PC CHASSIS
19PCC783WA01

GENERAL INFORMATION

CHASSIS TYPE: PC-A
TUNING SYSTEM: Direct
PICTURE TUBE: 19VMZP22
VHF TUNER: ★ EP86X83
UHF TUNER: ★ EP85X75
AUTO COLOR AVERAGING MODULE: EP93X382
SPEAKER: 16 ohm, 4" EP95X25
FIDDLE FREE KNOB KIT EP43X405

Check Service Number
before ordering parts.



- * Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CAT. NO.	REF. NO.	DESCRIPTION	CAT. NO.	DESCRIPTION
CONTROLS			CABINET FRONT PARTS	
EP49X471	R4194	ON/OFF - Vol. 50K ohm, 30% SPST	EP99X411	FRONT - Cherry Woodgrain, Plastic
EP49X352	R4220	BRIGHTNESS - 10K ohm, 20%	EP4X219	ESCUTCHEON - Fiddle Free UHF Cover
EP49X352	R4280	PICTURE - 10K ohm, 20%	EP89X450	ESCUTCHEON - UHF/VHF & Speaker, Cherrywood
EP49X352	R4300	TINT - 10K ohm, 20%	EP4X358	OVERLAY - VHF/UHF Readout
EP49X352	R4301	COLOR - 10K ohm, 20%	EP4X292	OVERLAY - Secondary Controls, Vinyl
EP49X475	R5198	VOL Limit, 50K ohm, 20%	EP4X127	OVERLAY - Nameplate
EP39X134	S4010	Color Averaging, Slide Type		

KNOBS

EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel
EP43X363	Falsa Fine Tune, Black
EP43X338	ON/OFF, Vol., White w/Retainer
EP43X381	VHF Selector, Black, w/Retainer
EP43X388	VHF Fine Tune, Black, w/Retainer
EP43X359	UHF Selector, Black & Chrome w/Retainer
EP43X381	UHF Fine Tune, Black w/Retainer
EP43X368	UHF Indicator, Black & Chrome, w/Retainer

CABINET BACK PARTS

EP37X56	ANTENNA TERMINAL BOARD - Complete
EP98X440	BACK - Black, Plastic
★ EP86X19	CORD - AC Power, Polarized
EP4X175	COVER - Service Information, Black, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION ON PAGE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

**CHECK SERVICE NUMBERS
BEFORE ORDERING PARTS**

The characters in parenthesis () after descriptions refer to the last three characters on the serial number label.

GENERAL ELECTRIC
TELEVISION
SERVICE INFORMATION

PC CHASSIS
19PCC785WB03/C03
C04/D06/E06

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE: PC-B/C/D/E
TUNING SYSTEM: SET112
PICTURE TUBE: * 19VMZP22
UHF/VHF TUNER: * EP93X415
SET112 TUNER CONTROL BOARD: EP93X451
(B03/C03/C04)
SET112 TUNER CONTROL BOARD: EP93X473
(D05 & Later)
SPEAKER: 16 ohm, 4" EP95X25



CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X352	R4220	BRIGHTNESS-10K ohm, 20% (B03/C03/C04)
EP49X494	R4220	BRIGHTNESS-10K ohm, 20% (D05 & Later)
EP49X352	R4260	PICTURE-10K ohm, 20% (B03/C03/C04)
EP49X494	R4260	PICTURE-10K ohm, 20% (D05 & Later)
EP49X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%
EP49X475	R5178	VOL. LIMITER-50K ohm, 20%
*EP39X202	S4000	SWITCH-ON/OFF, Push-Push
EP39X146	SW5008	SWITCH-UHF Cable Select

KEYBOARD

PART NO.	DESCRIPTION
EP62X166	Vol., & Channel Select (B03/C03/C04)
EP62X177	Vol., & Channel Select (D05 & Later)

KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel
EP43X443	ON/OFF, Vol., Black W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X67	ANTENNA TERMINAL BOARD-Complete
EP98X477	BACK-Black, Plastic
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X440	FRONT-Cherry Woodgrain, Plastic (B03/C03/C04)
EP99X444	FRONT-Cherry Woodgrain, Plastic (D05 & Later)
EP92X110	BRACKET-Upper Controls Mounting, Plastic
EP41X135	CHANNEL NUMBER READOUT DISPLAY-Green (B03/C03)
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green (C04 & Later)
EP4X402	DOOR-Keyboard Access (B03/C03/C04)
EP4X430	DOOR-Keyboard Access (D05 & Later)
EP4X415	ESCUTCHEON-Upper Controls, Cover, Black
EP50X60	FIDDLE FREE KIT-W/Thumbwheel & Keyboard Covers
EP89X436	GRILLE-Speaker, Cherry
EP4X291	OVERLAY-"Color/Tint/Brightness etc."
EP4X127	OVERLAY-Nameplate (B03/C03/C04)
EP4X420	OVERLAY-Nameplate (D05 & Later)
EP3X37	SPRING-Access Door (2 Used)
EP2X534	SPRING-CRT Corner Mounting (2 Used)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

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GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

TELEVISION
PC CHASSIS
19PCC789WD01/E01

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-D/E
TUNING SYSTEM:	KMPS112
PICTURE TUBE:	* 19VMZP22
UHF/VHF TUNER:	* EP93X415
SPEAKER: 16 ohm, 4"	EP95X25
KMPS112 TUNER CONTROL BOARD:	EP93X474
AM/FM RADIO CIRCUIT BOARD:	EP93X506
BATTERY: Nickel Cadmium	* EP58X3
USER'S MANUAL: Fiddle Free	29-9383-83
USER'S MANUAL: Radio/Alarm	29-9388-83

- * Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

Check Service Number
before ordering parts.



19PCC789W (w/Radio-Clock-Timer)

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%
R4260	EP49X494	PICTURE-10K ohm, 20%
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
R5198	EP49X498	DAUL POT.-TV Vol. Limit, 25K
		ohm, 30%
R5199		Radio Vol. Limit, 25K
		ohm, 30%
S1	EP39X212	SWITCH-AM/FM, Slide Type
KSW01	EP39X207	SWITCH-Radio/TV Select, Push & Lock
KSW02	EP39X207	SWITCH-On/Off Clock Alarm, Push & Lock
KSW03	EP39X206	SWITCH-Clock Alarm Set, Push
KSW04	EP39X206	SWITCH-Clock Fast Set, Push
KSW05	EP39X206	SWITCH-Clock Slow Set, Push
KSW06	EP39X206	SWITCH-Clock Time Set, Push
* S4000	EP39X211	SWITCH-PowerClock/Radio, Push/Push
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

EP43X341	THUMBWHEEL-Color, Tint, Brightness, & Picture
EP43X450	TUNING-Radio, Black, w/Retainer
EP43X449	VOL-Radio, Black, w/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X72	ANTENNA TERMINAL BOARD-Complete
EP98X510	CABINET BACK-Black, Plastic
ES3X29	CLIP-Antenna Terminal
EP2X540	CLIP-Power Cord Retainer
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X609	BRACKET-Keyboard Mounting, Plastic
EP92X122	BRACKET-Radio/Clock Support, Plastic
EP99X475	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green
EP41X147	CLOCK/TIMER READOUT DISPLAY
EP89X525	ESCUTCHEON-Upper Controls & Speaker
EP50X62	FIDDLE FREE KIT-Complete
EP4X448	FIDDLE FREE COVER-Thumbwheel, Plastic
EP4X457	FIDDLE FREE COVER-Keybaord, Plastic
EP54X247	OVERLAY-T.V. Primary Controls, Black, Lexan
EP4X291	OVERLAY-T.V. Secondary Controls, Inlay
EP4X455	RADIO DIAL SCALE-Lexan
EP2X612	RADIO GEAR-Tuning, Plastic
EP2X613	RADIO POINTER-Plastic
EP2X534	SPRING-CRT Ground

KEYBOARD

PART NO.	DESCRIPTION
EP62X180	Vol., & Channel Select

KNOBS

PART NO.	DESCRIPTION
EP47X64	BUTTON-TV/Radio & On/Off Clock Alarm, Chrome
EP47X65	BUTTON-Clock Alarm Set, Fast, Slow, & Alarm On/Time Set, Chrome
EP43X445	ON/OFF, VOL-T.V., Black

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

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GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

TELEVISION
PC CHASSIS
19PC2705WB02/C02

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-B/C
TUNING SYSTEM:	Direct
PICTURE TUBE:	* 19VMZP22
VHF TUNER:	* EP86X83
UHF TUNER:	* EP85X76
SPEAKER: 16 ohm, 4"	EP95X25

Check Service Number
before ordering parts.



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CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X471	R4194	ON/OFF, VOL.-50K ohm, 30%, SPST
EP49X352	R4220	BRIGHTNESS-10K ohm, 20%
EP49X352	R4260	PICTURE-10K ohm, 20%
EP43X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%

KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel
EP43X338	ON/OFF, Vol., White, W/Retainer
EP43X381	VHF Seleccor, Black, W/Retainer
EP43X388	VHF Fine Tune, Black, W/Retainer
EP43X359	UHF Selector, Black & Chrome, W/Retainer
EP43X361	UHF Fine Tune, Black, W/Retainer
EP43X442	UHF Indicator, Black, W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X53	ANTENNA TERMINAL BOARD-Complete
EP98X434	BACK-Black Plastic
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X441	FRONT-Cherry Woodgrain, Plastic
EP89X450	ESCUTCHEON-UHF/VHF & Speaker, Cherry Woodgrain
EP4X412	OVERLAY-UHF & VHF Readout Windows, Lexan
EP4X291	OVERLAY-Secondary Controls Inlay
EP4X127	OVERLAY-Nameplate

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

TELEVISION PRODUCT SERVICE, PORTSMOUTH, VIRGINIA

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

GENERAL INFORMATION

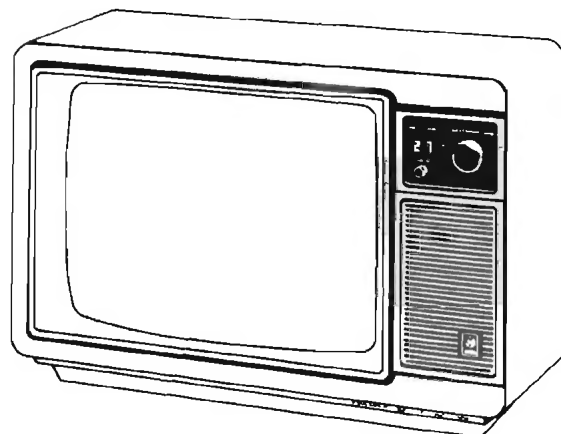
CHASSIS TYPE: PC-A
TUNING SYSTEM: ET91
PICTURE TUBE: ★ 19VMZP22
VHF/UHF TUNER: ★ EP93X335
VIR MODULE M-V: EP93X381
SPEAKER: 18 ohm, 4" EP95X25
ET91 CONTROL MODULE: EP93X376

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

TELEVISION
PC CHASSIS
19PC2712WA01

Check Service Number
before ordering parts.



CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CAT. NO. REF. NO.

DESCRIPTION

CAT. NO.

DESCRIPTION

CONTROLS

★ EP49X474	R4195	ON/OFF - Vol., 50K ohm, 20%
EP49X352	R4260	PICTURE - 1K ohm, 20%
EP49X352	R4220	BRIGHTNESS - 10K ohm, 20%
EP49X352	R4300	TINT - 10K ohm, 20%
EP49X352	R4301	COLOR - 10K ohm, 20%
EP39X134	SW4010	SWITCH - VIR, Slide Type

KNOBS

EP43X422	Channel Select, Chrome w/Retainer
EP43X341	Color, Tint, Brightness, Picture, Thumbwheel
EP43X338	ON/OFF, Vol., White, w/Retainer

CABINET BACK PARTS

EP90X40	ADAPTOR - 75 to 300 ohms
EP83X19	ANTENNA - Customer Changeable, Complete
EP83X13	ANTENNA - UHF Bowtie Type
EP83X18	ANTENNA - VHF, Fold-Down
EP37X54	ANTENNA TERMINAL BOARD - Complete
EP88X437	BACK - Black, Plastic
EP2X540	CLIP - Power Cord
ES3X29	CLIP - Antenna Terminal
★ EP66X19	CORD - AC Power, Polarized
EP4X175	COVER - Service Information, Black Plastic

CABINET FRONT PARTS

EP99X407	FRONT - Cherry Woodgrain, Plastic
EP92X87	BRACKET - ET91 Controls Mounting, Plastic
EP41X89	CHANNEL NUMBER READOUT DISPLAY
EP4X355	ESCUTCHEON - Upper Controls, Bronze, Lexan
EP89X436	GRILLE - Speaker, Cherry Woodgrain
EP4X127	OVERLAY - Nameplate
EP4X292	OVERLAY - "Color/Tint/Brightness/Picture/Etc."
EP3X40	RETAINER - Channel Readout

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION ON PAGE (PC) 3-1.

SAFETY INFORMATION: This receiver has been designed to meet the requirements of the American National Standards Institute (ANSI) for the safe use of television sets. The shaded areas on the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that exact catalog numbers be used for replacement of components which are designated by a (B) in the parts list and the shaded areas on the schematic diagram. Do not substitute replacement parts which do not have the same safety characteristics as recommended in factory service information. May create shock, fire, or burn hazard, or equipment malfunction.

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

TELEVISION
PC CHASSIS
19PC2724WA01

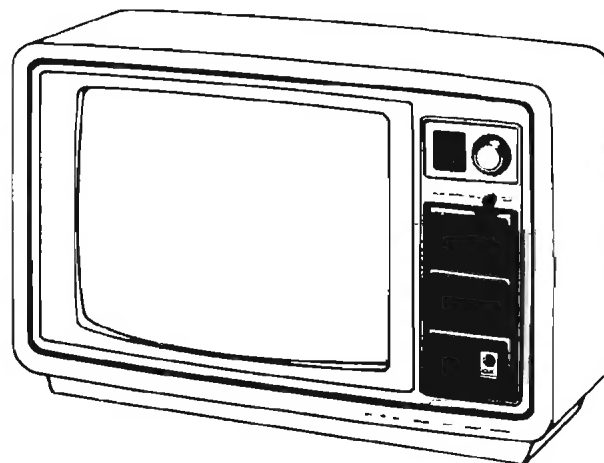
GENERAL INFORMATION

Check Service Number
before ordering parts.

CHASSIS TYPE:	PC-A
TUNING SYSTEM:	ET-91
PICTURE TUBE:	★ 19VMZP22
VHF/UHF TUNER:	★ EP93X335
LIGHT DEPENDENT RESISTOR BRD:	EP41X120
VIR MODULE M-V:	EP93X381
SPEAKER: 16 ohm, 4"	EP95X25
ET-91 CONTROL MODULE	EP93X376

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.



CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CAT. NO.

REF. NO.

DESCRIPTION

CAT. NO.

DESCRIPTION

CONTROLS

★ EP49X474	R4194	ON/OFF - Vol., 50K, 20%, SPST
EP49X352	R4220	BRIGHTNESS - 10K ohm, 20%
EP49X352	R4260	PICTURE - 10K ohm, 20%
EP49X352	R4300	TINT - 10K ohm, 20%
EP49X352	R4301	COLOR - 10K ohm, 20%
EP39X53	SW4005	SWITCH - VIR, Slide Type

KNOBS

EP43X417	Channel Select, Black, w/Retainer
EP43X341	Color, Tint, Brightness, Picture, Thumbwheel
EP43X335	Color/Tint Pref., Black
EP43X338	ON/OFF, Vol., White, w/Retainer

CABINET BACK PARTS

EP90X40	ADAPTOR - 75 to 300 ohms
EP83X19	ANTENNA - Customer Changeable, Complete
EP83X13	ANTENNA - UHF, Bowtie Type
EP83X18	ANTENNA - VHF, Fold-Down
EP37X54	ANTENNA TERMINAL BOARD - Complete
EP98X436	BACK - Black, Plastic
EP2X540	CLIP - Power Cord
ES3X29	CLIP - Antenna Terminal
★ EP68X19	CORD - AC Power, Polarized
EP4X175	COVER - Service Information, Black, Plastic

CABINET FRONT PARTS

EP99X406	FRONT - Cherry Woodgrain, Plastic
EP41X89	CHANNEL NUMBER READOUT DISPLAY
EP89X395	ESCUTCHEON - Controls & Speaker, Plastic
EP89X290	GRILLE - Cloth, Speaker, Black
EP2X157	LIGHT PIPE - Light Sensor
EP4X255	OVERLAY - ET-91 Controls, Bronze, w/Windows
EP4X99	OVERLAY - Nameplate
EP41X14	PILOT LIGHT - VIR, Red
EP3X40	RETAINER - LED Holder

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION ON PAGE (PC) 3-1

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

GENERAL INFORMATION

CHASSIS TYPE:	PC-A
TUNING SYSTEM:	KMP-91
PICTURE TUBE:	* 19VMZP22
VHF/UHF TUNER:	* EP93X388
COLOR AVG. MODULE:	EP93X382
SPEAKER: 16 ohm, 4"	EP95X25
KMP-91 CONTROL MODULE	EP93X312

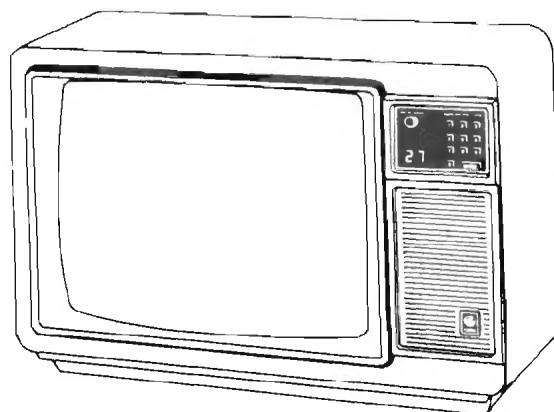
* Replace picture tube only with original type number or factory approved substitute

The characters in brackets [] after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

TELEVISION PC-A CHASSIS

19PC2730WA01
19PC2732WA01

Check Service Number
before ordering parts.



CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
* EP49X474	R4195	ON/OFF - Vol. 50K ohm, 20% SPST
EP49X352	R4220	BRIGHTNESS - 10K ohm, 20%
EP49X352	R4260	PICTURE - 10K ohm, 20%
EP49X352	R4300	TINT - 10K ohm, 20%
EP49X352	R4301	COLOR - 10K ohm, 20%
EP39X134	SW4010	SWITCH - Color Avg., Slide Type (19PC2732W)

KEYBOARD

EP93X185 Channel Select

KNOBS

EP43X341 Color, Tint, Brightness, Picture, Thumbwheel
EP43X338 ON/OFF, Vol., White, w/Retainer

CABINET BACK PARTS

EP90X40	ADAPTOR - 75 to 300 ohms
EP83X19	ANTENNA - Customer Changeable, Complete
EP83X13	ANTENNA - UHF, Bowtie Type
EP83X18	ANTENNA - VHF, Fold-Down
EP37X54	ANTENNA TERMINAL BOARD - Complete
EP98X437	BACK - Black, Plastic
EP2X540	CLIP - Power Cord
ES3X29	CLIP - Antenna Terminal
* EP66X19	CORD - AC Power, Polarized
EP4X175	COVER - Service Information, Black, Plastic

CABINET FRONT PARTS

EP99X408	FRONT - Cherry Woodgrain, Plastic (19PC2730W)
EP99X407	FRONT - Cherry Woodgrain, Plastic (19PC2732W)
EP92X88	BRACKET - KMP Controls Mounting, Plastic
EP41X60	CHANNEL NUMBER READOUT DISPLAY - Red
EP54X230	ESCUTCHEON - Upper Controls, Black Plastic (19PC2730W)
EP4X356	ESCUTCHEON - Upper Controls, Bronze Plastic (19PC2732W)
EP89X436	GRILLE - Speaker, Cherry Woodgrain (19PC2730W)
EP89X437	GRILLE - Speaker, Cherry Woodgrain (19PC2732W)
EP4X291	OVERLAY - "Color/Tint/Brightness/Picture, etc." (19PC2730W)
EP4X292	OVERLAY - "Color/Tint/Brightness/Picture, etc." (19PC2732W)
EP4X127	OVERLAY - Nameplate
EP3X40	RETAINER - Channel Readout, Spring

P88-01

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION ON PAGE (PC) 3-1.

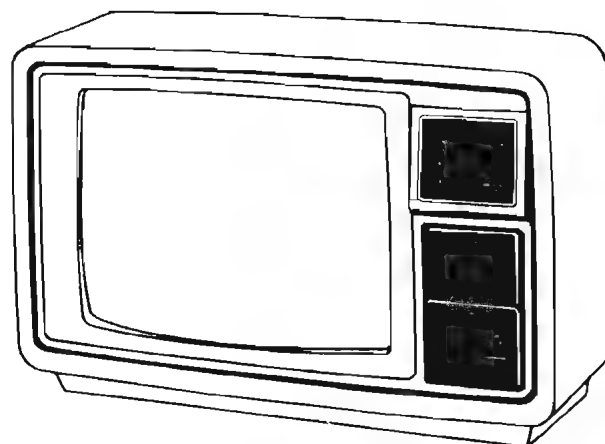
PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY PRODUCT. THE PARTS LIST AND THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL IMPORTANCE. THE PARTS LIST AND SCHEMATIC DIAGRAM SHOULD BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A * IN THE PARTS LIST AND THE SHOWN AREAS ON THE SCHEMATIC DIAGRAM. DO NOT SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS THE COMPONENTS DESIGNATED IN THE PARTS LIST OR THE SCHEMATIC DIAGRAM. DO NOT SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS THE COMPONENTS DESIGNATED IN THE PARTS LIST OR THE SCHEMATIC DIAGRAM. DO NOT SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS THE COMPONENTS DESIGNATED IN THE PARTS LIST OR THE SCHEMATIC DIAGRAM. DO NOT SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS THE COMPONENTS DESIGNATED IN THE PARTS LIST OR THE SCHEMATIC DIAGRAM.

SERVICE INFORMATION

GENERAL INFORMATION

CHASSIS TYPE: PC-A
TUNING SYSTEM: KMP-91
PICTURE TUBE: ★ 19VMZP22
VHF/UHF TUNER: ★ EP93X388
LIGHT DEPENDENT RESISTOR BRD: EP41X120
VIR MODULE M-V: EP93X381
SPEAKER: 16 ohm, 4" EP95X25
ET-91 CONTROL MODULE EP93X312

Check Service Number
before ordering parts.



* Replace picture tube only with original type number or factory approved substitute

The characters in brackets [] after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CAT NO	REF NO.	DESCRIPTION	CAT NO	DESCRIPTION
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CONTROLS

★ EP49X474	R4194	ON/OFF - Vol., 50K, 20%, SPST
EP49X352	R4220	BRIGHTNESS - 10K ohm, 20%
EP49X352	R4260	PICTURE - 10K ohm, 20%
EP49X352	R4300	TINT - 10K ohm, 20%
EP49X352	R4301	COLOR - 10K ohm, 20%
EP39X53	SW4005	SWITCH - VIR, Slide Type

KEYBOARD

EP93X185	Channel Select
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KNOBS

EP43X341	Color, Tint, Brightness, Picture, Thumbwheel
EP43X335	Color/Tint Pref., Black
EP43X338	ON/OFF, Vol., White, w/Retainer

CABINET BACK PARTS

EP90X40	ADAPTOR - 75 to 300 ohms
EP83X19	ANTENNA - Customer Changeable, Complete
EP83X13	ANTENNA - UHF, Bowtie Type
EP83X18	ANTENNA - VHF, Fold-Down
EP37X54	ANTENNA TERMINAL BOARD - Complete
EP98X436	BACK - Black, Plastic
EP2X540	CLIP - Power Cord
ES3X29	CLIP - Antenna Terminal
★ EP66X19	CORD - AC Power, Polarized
EP4X175	COVER - Service Information, Black, Plastic

CABINET FRONT PARTS

EP99X406	FRONT - Cherry Woodgrain, Plastic
EP92X78	BRACKET - KMP-91 Controls Mounting, Plastic
EP41X60	CHANNEL NUMBER READOUT DISPLAY - Red
EP89X455	ESCUTCHEON - Controls & Speaker, Cherry, Plastic
EP89X291	GRILLE - Cloth, Speaker, Black
EP2X157	LIGHT PIPE - Light Sensor
EP4X127	OVERLAY - Nameplate
EP41X14	PILOT LIGHT - VIR, Red
EP3X40	RETAINER - LED Holder, Spring
EP4X251	WINDOW - KMP-91 Keyboard Cover

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION ON PAGE (PC) 3-1

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHAD- AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHAD- AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

GENERAL ELECTRIC

TELEVISION

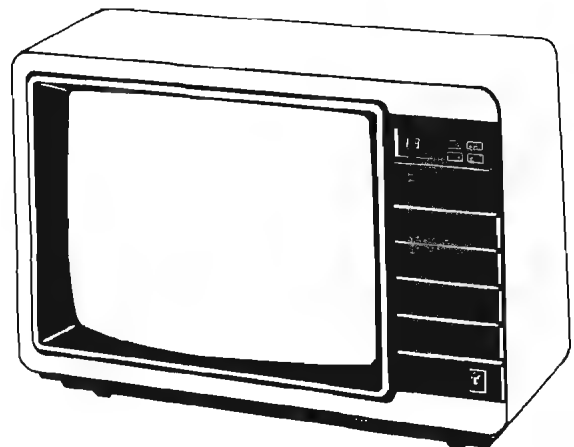
SERVICE INFORMATION

TELEVISION
PC CHASSIS
19PC2742WA01

GENERAL INFORMATION

Check Service Number
before ordering parts.

CHASSIS TYPE:	PC-A
TUNING SYSTEM:	LMP-91
PICTURE TUBE:	★ 19VMZP22
VHF/UHF TUNER:	★ EP93X334
COLOR AVG. MODULE:	EP93X382
REMOTE RECEIVER MODULE M-F:	EP93X225
REMOTE TRANSMITTER M-J:	76-5-1901
SPEAKER: 16 ohm, 4"	EP95X25
LMP-91 CONTROL MODULE	EP93X279



* Replace picture tube only with original type number or factory approved substitute

The characters in brackets [] after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X352	R4220	BRIGHTNESS - 10K ohm, 20%
EP49X352	R4260	PICTURE - 10K ohm, 20%
EP49X352	R4300	TINT - 10K ohm, 20%
EP49X352	R4301	COLOR - 10K ohm, 20%
EP39X134	SW4010	SWITCH - Color Avg., Slide Type

KEYBOARD

EP62X135	ON/OFF, Vol., Channel Select
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KNOB

EP43X341	Color, Tint, Brightness, Picture, Thumbwheel
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CABINET BACK PARTS

EP90X40	ADAPTOR - 75 to 300 ohms
EP83X19	ANTENNA - Customer Changeable, Complete
EP83X13	ANTENNA - UHF, Bowtie Type
EP83X18	ANTENNA - VHF, Fold-Down
EP37X54	ANTENNA TERMINAL BOARD - Complete
EP98X437	BACK - Black, Plastic
EP2X540	CLIP - Power Cord
ES3X29	CLIP - Antenna Terminal
★ EP66X19	CORD - AC Power, Polarized
EP4X175	COVER - Service Information, Black, Plastic

CABINET FRONT PARTS

EP99X409	FRONT - Cherry Woodgrain, Plastic
EP92X89	BRACKET - LMP Controls Mounting, Plastic
EP41X60	CHANNEL NUMBER READOUT DISPLAY - Red
EP4X290	DOOR - Keyboard Access, Black, Plastic
EP4X357	ESCUTCHEON - Upper Controls, Bronze, Loxan
EP89X437	GRILLE - Speaker, Cherry Woodgrain
EP4X292	OVERLAY - "Color/Tint/Brightness/Picture etc."
EP4X127	OVERLAY - Nameplate
EP3X40	RETAINER - Channel Readout, Spring
EP3X37	SPRING - Access Door (2)
EP4X289	WINDOW - Sensor

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION ON PAGE (PC) 3-1.

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (★) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (★) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

TELEVISION
PC CHASSIS
19PC274 5WB02/B03/C03/C04

Check Service Number
before ordering parts.

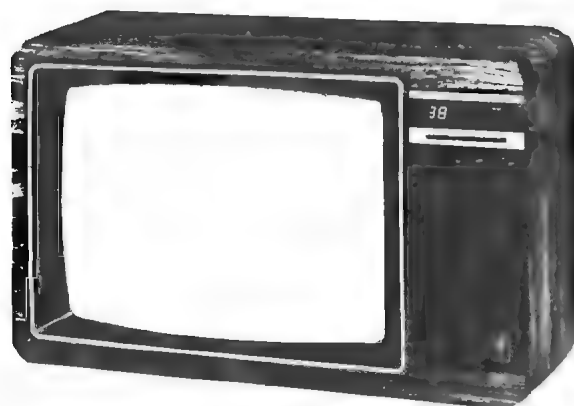
GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-B/C
TUNING SYSTEM	LMPL12
PICTURE TUBE:	19VM2P22
UHF/VHF TUNER:	EP93X415
REMOTE CONTROL RECEIVER MODULE:	EP93X417 (B02/B03/C03)
REMOTE CONTROL RECEIVER MODULE:	EP93X475 (C04 & Later)
REMOTE CONTROL TRANSMITTER:	EP62X164
SPEAKER 16 ohm, 4"	EP95X25
LMPL12 TUNER CONTROL BOARD:	EP93X413 (B02)
LMPL12 TUNER CONTROL BOARD:	EP93X445 (B03 & Later)

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.



CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X352	R4220	BRIGHTNESS-10K ohm, 20%
EP49X352	R4260	PICTURE-10K ohm, 20%
EP49X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%

KEYBOARD

PART NO.	DESCRIPTION
EP62X161	ON/OFF, Vol., & Channel Select (B02/B03/C03)
EP62X174	ON/OFF, Vol., & Channel Select (C04 & Later)

KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 ohms to 300 ohms
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X55	ANTENNA TERMINAL BOARD-Complete
EP98X470	BACK-Black, Plastic
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X440	FRONT-Cherry Woodgrain, Plastic (B02/B03/C03)
EP99X444	FRONT-Cherry Woodgrain, Plastic (C04 & Later)
EP92X06	BRACKET-Primary Controls Mounting, Plastic
EP41X135	CHANNEL NUMBER READOUT DISPLAY-Green (B02/B03/C03)
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green (C04 & Later)
EP4X411	ESCUTCHEON-Upper Controls, Gray
EP89X464	GRILLE-Speaker
EP4X291	OVERLAY-"Color/Tint/Brightness/Etc."
EP4X365	OVERLAY-Window, Snap-In, Plastic
EP4X127	OVERLAY-Nameplate

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

GENERAL ELECTRIC

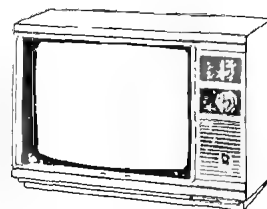
TELEVISION

SERVICE INFORMATION

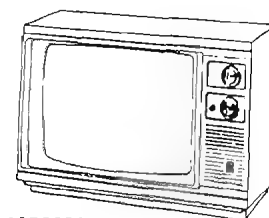
GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-A/B/C
TUNING SYSTEM:	Direct
PICTURE TUBE:	* 19VMZP22
VHF TUNER:	* EP86X83
UHF TUNER:	* EP85X75 (A01/B01)
UHF TUNER:	* EP85X76 (B02 & Later)
SPEAKER: 16 ohm, 4"	EP95X25
USER'S MANUAL:	29-9102-82



19PC3702W



19PC3704W

- * Replace picture tube only with original type number or factory approved substitute

The characters in brackets [] after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
*EP49X471	R4194	ON/OFF, VOL.-50K ohm, 30%, SPST
EP49X352	R4220	BRIGHTNESS-10K ohm, 20%
EP49X352	R4260	PICTURE-10K ohm, 20%
EP49X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%

KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel
EP43X338	ON/OFF, Vol., White W/Retainer
EP43X381	VHF Selector, Black, W/Retainer
EP43X388	VHF Fine Tune, Black, W/Retainer
EP43X359	UHF Selector, Chrome, W/Retainer
EP43X361	UHF Fine Tune, Black, W/Retainer
EP43X368	UHF Indicator, Black, W/Retainer (A01/B01)
EP43X368	UHF Indicator, Black, W/Retainer (B02 & Later)

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X18	ANTENNA-VHF, Fold-Down
EP37X53	ANTENNA TERMINAL BOARD-Complete
EP98X434	BACK-Black, Plastic
ES3X29	CLIP-Antenna Terminal
EP2X540	CLEAT-Power Cord Storage
*EP6X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X402	FRONT-Walnut Woodgrain, Plastic (19PC3702W)
EP99X403	FRONT-Cherry Woodgrain (19PC3703W/19PC3704W)
EP89X449	ESCUTCHEON-UHF/VHF & Speaker (19PC3702W)
EP89X450	ESCUTCHEON-UHF/VHF & Speaker (19PC3703W/19PC3704W)
EP4X350	OVERLAY-UHF/VHF Readout, Alum. (19PC3702L)
EP4X351	OVERLAY-UHF/VHF Readout, Alum. (19PC3703W/19PC3704W)
EP4X291	OVERLAY-Secondary Controls
EP4X127	OVERLAY-Nameplate
EP1X33	RIVET-Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

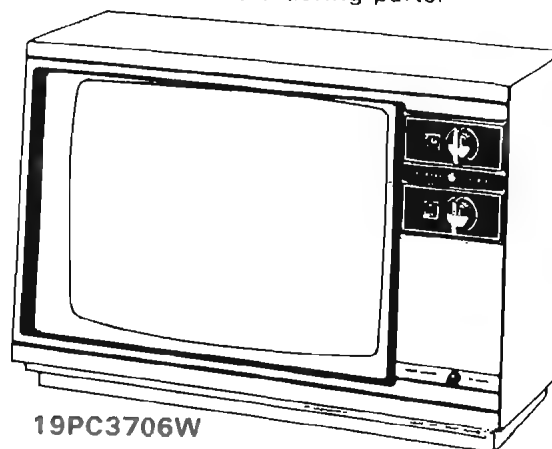
TELEVISION
PC CHASSIS
19PC370 6WA01/A02/B02/B03/C03

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-A/B/C
TUNING SYSTEM:	Direct
PICTURE TUBE:	* 19VM2P22
VHF TUNER:	* EP86X83
UHF TUNER:	* EP85X75 (A01/A02/B02)
UHF TUNER:	* EP85X76 (B03 & Later)
COLOR MONITOR MODULE:	EP93X382
SPEAKER: 16 ohm, 4"	EP95X25
USER'S MANUAL:	29 9202 82

Check Service Number
before ordering parts.



19PC3706W

- * Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
*EP49X473	R4194	ON/OFF, VOL.-50K ohm, 30%, SPST
EP49X352	R4220	BRIGHTNESS-10K ohm, 20%
EP49X352	R4260	PICTURE-10K ohm, 20%
EP49X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%
EP39X134	S4010	COLOR MONITOR SWITCH-Slide Type

KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, 1numbwheel
EP43X338	ON/OFF, Vol., White, W/Retainer
EP43X434	VHF Selector, Chrome, W/Retainer
EP43X438	VHF Fine Tune, Black, W/Retainer (A01)
EP43X437	VHF Fine Tune, Black, W/Retainer (A02 & Later)
EP43X401	UHF Selector, Black, W/Retainer (A01)
EP43X435	UHF Selector, Black, W/Retainer (A02 & Later)
EP43X400	UHF Fine Tune, Black, W/Retainer (A01)
EP43X436	UHF Fine Tune, Black, W/Retainer (A02 & Later)
EP43X432	VHF Readout Disc, Black, W/Bushing
EP43X433	UHF Readout Disc, Black (A01/A02/B02)
EP43X439	UHF Readout Disc, Black (B03 & Later)

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP83X19	ANTENNA-CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X53	ANTENNA TERMINAL BOARD-Complete
EP98X434	BACK-Black, Plastic
ES3X29	CLIP-Antenna Terminal
EP2X540	CLIP-Power Cord
*EP66X19	CORD-1C Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X405	FRONT-Cherry Woodgrain, Plastic
EP89X452	ESCUTCHEON-UHF/VHF & Speaker, Cherry, Lexan
EP89X453	GRILLE-Speaker, Cherry Woodgrain
EP4X354	LENS-UHF/VHF Snap-In
EP4X292	OVERLAY-Secondary Controls
EP4X353	OVERLAY-Nameplate
EP41X128	PILOT LIGHT-UHF/VHF Indicator
EP1X33	RIVET-Plastic
EU34X192	SOCKET-UHF/VHF Pilot Light

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-A/B/C
TUNING SYSTEM:	Direct
PICTURE TUBE	19VMZP22
VHF TUNER:	* EP86X83
UHF TUNER:	* EP85X75 (A01/A02/B02)
UHF TUNER:	* EP85X76 (B03 & Later)
LIGHT DEPENDENT RESISTOR BD:	EP14X120
VIR MODULE	EP93X381
SPEAKER 16 ohm, 4"	EP95X25
USER'S MANUAL:	79-9204-82

- * Replace picture tube only with original type number or factory approved substitute

The characters in brackets - [] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X473	R4195/S4195	ON/OFF, VOL.-50K ohm, 30%, SPST
EP49X352	R4220	BRIGHTNESS-10K ohm, 20%
EP49X352	R4260	PICTURE-10K ohm, 20%
EP49X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%
EP39X53	SW4005	SWITCH-VIR, Slide Type

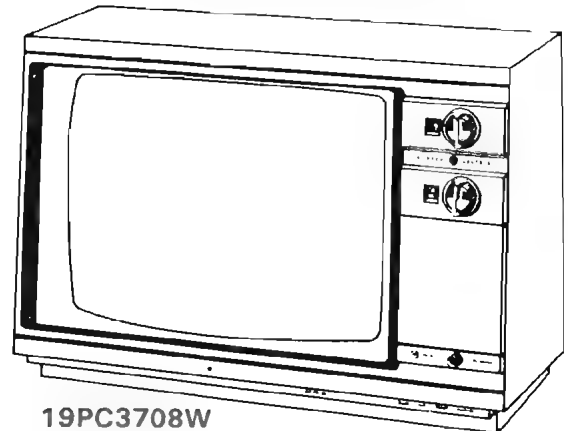
KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel
EP43X335	Color/Tint Pref., Black
EP43X338	ON/OFF, Vol., White, W/Retainer
EP43X434	VHF Selector, Chrome, W/Retainer
EP43X438	VHF Fine Tune, Black, W/Retainer (A01)
EP43X437	VHF Fine Tune, Black, W/Retainer (A02 & Later)
EP43X401	UHF Selector, Black, W/Retainer (A01)
EP43X435	UHF Selector, Black, W/Retainer (A02 & Later)
EP43X400	UHF Fine Tune, Black, W/Retainer (A01)
EP43X436	UHF Fine Tune, Black, W/Retainer (A02 & Later)
EP43X432	VHF Readout Disc, Black, W/Bushing
EP43X433	UHF Readout Disc, Black (A01/A02/B02)
EP43X439	UHF Readout Disc, Black (B03 & Later)

TELEVISION PC CHASSIS

19PC370 8WA01/A02/B02/B03/C03

Check Service Number
before ordering parts.



19PC3708W

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X53	ANTENNA TERMINAL BOARD-Complete
EP98X435	BACK-Black, Plastic
ES3X29	CLIP-Antenna Terminal
EP2X540	CLIP-Power Cord
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X404	FRONT-Cherry Woodgrain, Plastic
EP89X451	ESCUTCHEON-UHF/VHF & Speaker, Chrome, Lexan
EP89X454	GRILLE-Speaker, Cloth, Charcoal
EP4X354	LENS-UHF/VHF Readout, Lexan
EP2X157	LIGHT PIPE-Light Sensor, Plastic
EP4X345	OVERLAY-Secondary Controls
EP4X352	OVERLAY-Nameplate
EP41X128	PILOT LIGHT-UHF/VHF Indicator
EP41X14	PILOT LIGHT-VIR, Red
EP2X169	RETAINER-LED Holder
EP1X33	RIVET-Plastic
EU3X192	SOCKET-Pilot Light, UHF/VHF Indicator

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (S) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (S) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS, WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

CHECK SERVICE NUMBERS
BEFORE ORDERING PARTS
The characters in parenthesis ()
after descriptions refer to the last
three characters on the serial number
label.

GENERAL ELECTRIC

TELEVISION

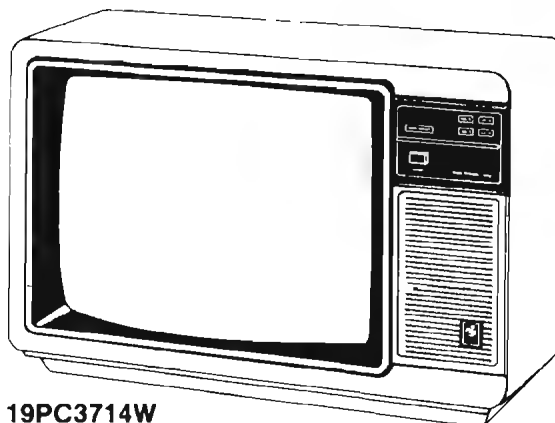
SERVICE INFORMATION

PC CHASSIS
19PC3714WB02/B03/C03
C04/D05/E05

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE: PC-B/C/D/E
TUNING SYSTEM: SET112
PICTURE TUBE: * 19VM2P22
UHF/VHF TUNER: * EP93X415
SPEAKER: 16 ohms, 4" EP95X25
SET112 TUNER CONTROL BOARD: EP93X418 (B02)
SET112 TUNER CONTROL BOARD: EP93X451
(B03/C03/C04)
SET112 TUNER CONTROL BOARD: EP93X473
(D05 & Later)



19PC3714W

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R214	EP49X464	SHARPNESS-1K ohm, 20%
R4220	EP49X352	BRIGHTNESS-10K ohm, 20% (B02/B03/C03/C04)
R4220	EP49X494	BRIGHTNESS-10K ohm, 20% (D05 & Later)
R4260	EP49X352	PICTURE-10K ohm, 20% (B02/B03/C03/C04)
R4260	EP49X494	PICTURE-10K ohm, 20% (D05 & Later)
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
* S4000	EP39X202	SWITCH-On/Off, Push-Push
S4010	EP39X134	COLOR MONITOR SWITCH-Slide Type
S5008	EP39X146	SWITCH-UHF Cable Select

KEYBOARD

PART NO.	DESCRIPTION
EP62X166	Vol., & Channel Select (B02/B03/C03)
EP62X177	Vol., & Channel Select (C04 & Later)

KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel
EP43X443	ON/OFF-Vol., Black (B02/B03/C03/C04)
EP43X446	ON/OFF-Vol., Black (D05 & Later)

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 ohms to 300 ohms
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X18	ANTENNA-VHF, Fold-Down
EP37X55	ANTENNA TERMINAL BOARD-Complete (B02/B03/C03/C04)
EP37X68	ANTENNA TERMINAL BOARD-Complete (D05 & Later)
EP98X470	BACK-Black, Plastic
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X432	FRONT-Cherry Woodgrain, Plastic (B02/B03/C03/C04)
EP99X446	FRONT-Cherry Woodgrain, Plastic (D05 & Later)
EP92X110	BRACKET-Upper Controls Mounting, Plastic
EP41X135	CHANNEL NUMBER READOUT DISPLAY-Green (B02/B03/C03)
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green (C04 & Later)
EP4X402	DOOR-Keyboard Access, Black Lexan (B02/B03/C03/C04)
EP4X430	DOOR-Keyboard Access, Black Lexan (D05 & Later)
EP4X401	ESCUTCHEON-Upper Controls, Keyboard Cover, Lexan
EP89X436	GRILLE-Speaker, Cherry Woodgrain, Plastic
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X127	OVERLAY-Nameplate (B02/B03/C03/C04)
EP4X420	OVERLAY-Nameplate (D05 & Later)
EP3X37	SPRING-Access Door (2 Used)
EP2X534	SPRING-CRT Ground (2 Used)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

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GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

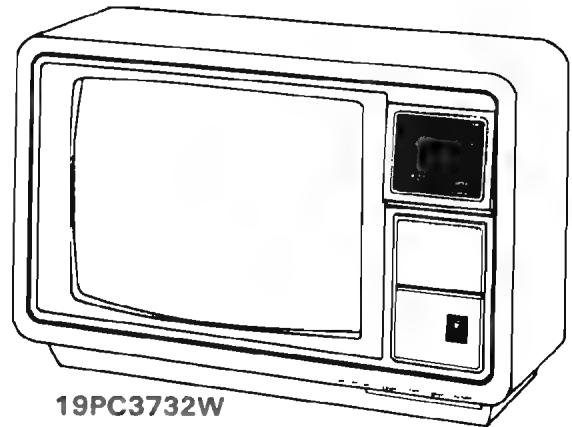
CHASSIS TYPE:	PC-B/C
TUNING SYSTEM:	KMP112
PICTURE TUBE:	* 19VMZP22
UHF/VHF TUNER:	* EP93X415
SPEAKER: 16 ohm, 4"	EP95X25
KMP112 TUNER CONTROL BOARD:	EP93X414 (B01)
KMP112 TUNER CONTROL BOARD:	EP93X414 (B02 & Later)
USER'S MANUAL:	29-9206-82

- * Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver

TELEVISION
PC CHASSIS
19PC3732WB01/B02/C02/C03

Check Service Number
before ordering parts.



19PC3732W

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
*EP49X474	R4194	ON/OFF, VOL.-50K ohm, 20%, SPST
EP49X352	R4220	BRIGHTNESS-10K ohm, 20%
EP49X352	R4260	PICTURE-10K ohm, 20%
EP49X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%
EP39X134	S4010	COLOR MONITOR SWITCH-Slide Type
EP39X146	SW5008	SWITCH-UHF Cable Select

KEYBOARD

PART NO.	DESCRIPTION
EP93X185	CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Inumbwheel
EP43X338	ON/OFF, Vol., Black, W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 ohms to 300 ohms
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X18	ANTENNA-VHF, Fold-Down
EP37X55	ANTENNA TERMINAL BOARD-Complete
EP98X472	BACK-Black, Plastic
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X434	FRONT-Cherry Woodgrain, Plastic
EP92X78	BRACKET-Keyframe Mounting, Plastic
EP41X135	CHANNEL NUMBER READOUT DISPLAY-Green (B01/B02/C02)
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green (C03 & Later)
EP89X455	ESCUTCHEON-Primary Controls & Speaker, Plastic
EP89X291	GRILLE CLOTH-Speaker, Black
EP4X399	OVERLAY-Keyframe & Control Cover, Black, Plastic
EP4X127	OVERLAY-Nameplate
EP3X40	RETAINER-Channel Readout Display

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

TELEVISION PC CHASSIS

19PC3734WB01/B02/B03/C03/C04

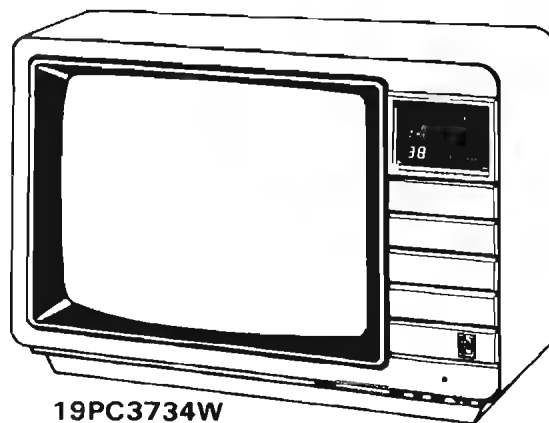
GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-B/C
TUNING SYSTEM:	KMP112
PICTURE TUBE:	* 19VMZP22
UHF/VHF TUNER:	* EP93X415
LIGHT DEPENDENT RESISTOR BD:	EP41X120
VIR MODULE:	EP93X381
SPEAKER: 16 ohm, 4"	EP95X25
KMP112 TUNER CONTROL BOARD:	EP93X414 (B01/B02)
KMP112 TUNER CONTROL BOARD:	EP93X446 (B03 & Later)
USER'S MANUAL:	29-9207-82

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.



19PC3734W

Check Service Number
before ordering parts.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X472	RV15	VIR COLOR-Pref., 5K ohm, 20%
EP49X472	RV39	VIR TINT-Pref., 5K ohm, 20%
EP49X464	R214	SHARPENSS-1K ohm, 20%
*EP49X474	R4194	ON/OFF, VOL.-50K ohm, 20%, SPST
EP49X352	R4220	BRIGHTNESS-10K ohm, 20%
EP49X352	R4260	PICTURE-10K ohm, 20%
EP49X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%
EP39X53	SW4005	SWITCH-VIR, Slide Type
EP39X146	S5008	SWITCH-UHF Cable Select

KEYBOARD

PART NO.	DESCRIPTION
EP93X185	CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel
EP43X335	VIR Color/Tint Pref., Black
EP43X338	ON/OFF, Vol., Black, W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 ohms to 300 ohms
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X18	ANTENNA-VHF, Fold-Down
EP37X55	ANTENNA TERMINAL BOARD-Complete
EP98X439	BACK-Black, Plastic (B01)
EP98X466	BACK-Black, Plastic (B02 & Later)
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X431	FRONT-Cherry Woodgrain, Plastic (B01)
EP99X433	FRONT-Cherry Woodgrain, Plastic (B02/B03/C03)
EP99X445	FRONT-Cherry Woodgrain, Plastic (C04 & Later)
EP92X107	BRACKET-Upper Controls Mounting, Plastic
EP2X542	BRACKET-VIR Board Support, Plastic
EP41X135	CHANNEL NUMBER READOUT DISPLAY-Green (B01/B02/B03/C03)
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green (C04 & Later)
EP4X396	ESCUTCHEON-On/Off & Keyboard, Black, Lexan
EP89X479	GRILLE-Speaker, Black
EP2X157	LIGHT PIPE-Light Sensor, Plastic
EP4X345	OVERLAY-Secondary Controls Inlay, For Thumbwheel
EP4X127	OVERLAY-Nameplate
EP41X14	PILOT LIGHT-VIR, Red

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

GENERAL ELECTRIC



TELEVISION

SERVICE INFORMATION

TELEVISION
PC CHASSIS

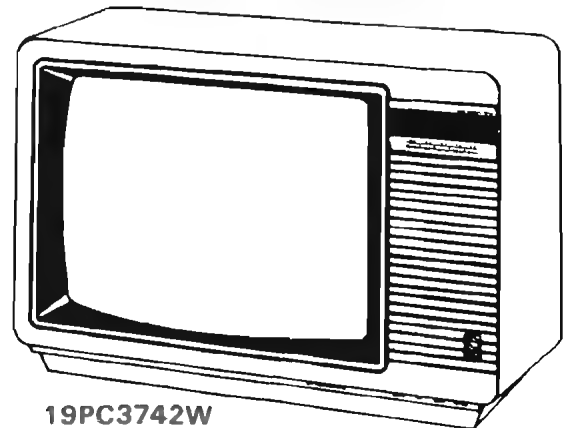
19PC3742WB01/B02/B03/C03/C04

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-B/C
TUNING SYSTEM:	LMP112
PICTURE TUBE:	* 19W12P22
UHF/VHF TUNER:	* EP93X415
REMOTE CONTROL RECEIVER MODULE:	EP93X417 (B01/B02/B03/C03)
REMOTE CONTROL RECEIVER MODULE:	EP93X475 (C04 & Later)
REMOTE CONTROL TRANSMITTER:	EP62X164
SPEAKER: 16 ohm, 4"	EP95X25
LMP112 TUNER CONTROL BOARD:	EP93X413 (B01/B02/B03/C03)
LMP112 TUNER CONTROL BOARD:	EP93X413 (C04 & Later)
USER'S MANUAL:	29-9208-82

Check Service Number
before ordering parts.



19PC3742W

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X464	R214	SHARPNESS-1K ohm, 20%
EP49X352	R4220	BRIGHTNESS-10K ohm, 20%
EP49X352	R4260	PICTURE-10K ohm, 20%
EP49X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%
EP39X134	S4010	COLOR MONITOR SWITCH-Slide Typ.
EP39X146	SW5008	SWITCH-UHF Cable Select

KEYBOARD

PART NO.	DESCRIPTION
EP62X161	ON/OFF, Vol., Channel Select (B01/B02/B03/C03)
EP62X174	ON/OFF, Vol., Channel Select (C04 & Later)

KNOBS

PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 ohms to 300 ohms
EP83X19	ANTENNA CUSTOMER CHAINCABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X18	ANTENNA-VHF, Fold-Down
EP37X55	ANTENNA TERMINAL BOARD-Complete
EP98X448	BACK-Black, Plastic (B01)
EP98X470	BACK-Black, Plastic (B02 & Later)
ES3X29	CLIP-Antenna Terminal
EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X430	FRONT Cherry Woodgrain, Plastic (B01)
EP99X432	FRONT-Cherry Woodgrain, Plastic (B02/B03/C03)
EP99X446	FRONT-Cherry Woodgrain, Plastic (C04 & Later)
EP92X106	BRACKET-KeyBoard Mounting, Plastic
EP41X135	CHANNEL NUMBER READOUT DISPLAY-Green (B01/B02/B03/C03)
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green (C04 & Later)
EP4X397	ESCUTCHEON-Upper Controls, Black, Leather
EP89X480	GRILLE-Speaker, Cherry Woodgrain, Plastic
EP4X292	OVERLAY-Secondary Controls Inlay, Vinyl
EP4X127	OVERLAY-Nameplate
EP4X365	WINDOW-Snap-In, Black, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-B/C
TUNING SYSTEM:	L:PI12
PICTURE TUBE:	19VM2P22
UHF/VHF TUNER:	EP93X415
LIGHT DEPENDENT RESISTOR BD:	EP41X120
REMOTE CONTROL RECEIVER MODULE:	EP93X417 (B01/B02/B03/C03)
REMOTE CONTROL RECEIVER MODULE:	EP93X475 (C04 & Later)
REMOTE CONTROL TRANSMITTER:	EP62X164
VIR MODULE:	EP93X381
SPEAKER: 16 ohm, 4"	EP95X25
LHP112 TUNER CONTROL BOARD:	EP93X413 (B01/B02)
LMPI12 TUNER CONTROL BOARD:	EP93X445 (B03 & Later)
USER'S MANUAL:	29-9209-82

* Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X472	RV15	VIR COLOR-Pref., 5K ohm, 20%
EP49X472	RV39	VIR TINT-Pref., 5K ohm, 20%
EP49X464	R214	SHARPNESS-1K ohm, 20%
EP49X352	R4220	BRIGHTNESS-10K ohm, 20%
EP49X352	R4300	TINT-10K ohm, 20%
EP49X352	R4301	COLOR-10K ohm, 20%
EP49X352	R4360	COLOR-10K ohm, 20%
EP39X53	SW4005	SWITCH-VIR, Slide Type
EP39X146	S5008	SWITCH-UHF Cable Select

KEYBOARD

PART NO.	DESCRIPTION
EP62X161	ON/OFF, Vol., Channel Select (B01/B02/B03/C03)
EP62X174	ON/OFF, Vol., Channel Select (C04 & Later)

KNOBS

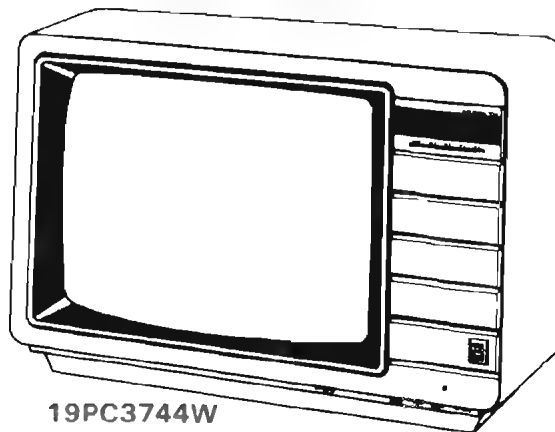
PART NO.	DESCRIPTION
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel
EP43X335	Color/Tint Pref., Black

TELEVISION

PC CHASSIS

19PC3744WB01/B02/B03/C03/C04

Check Service Number
before ordering parts.



19PC3744W

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 ohms to 300 ohms
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X18	ANTENNA-VHF, Fold-Down
EP37X55	ANTENNA TERMINAL BOARD-Complete
EP98X439	BACK-Black, Plastic (B01)
EP98X466	BACK-Black, Plastic (B02 & Later)
CSJ29	CLIP-Antenna Terminal
EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X431	FRONT-Cherry Woodgrain, Plastic (B01)
EP99X433	FRONT-Cherry Woodgrain, Plastic (B02/B03/C03)
EP99X445	FRONT-Cherry Woodgrain, Plastic (C04 & Later)
EP2X542	BRACKET-VIR Board Support, Plastic
EP92X106	BRACKET-Keyframe Mounting, Plastic
EP41X135	CHANNEL NUMBER READOUT DISPLAY-Green (B01/B02/B03/C03)
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green (C04 & Later)
EP4X398	ESCUTCHEON-Upper Controls, Black, Lexan
EP89X464	GRILLE-Speaker
EP2X157	LIGHT PIPE-Light Sensor, Plastic
EP4X345	OVERLAY-Secondary Controls Inlay, Vinyl
EP4X127	OVERLAY-Nameplate
EP41X14	PILOT LIGHT-VIR, Red
EP4X364	WINDOW-Snap-In, Black Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X RADIATION.

**CHECK SERVICE NUMBERS
BEFORE ORDERING PARTS**

The characters in parenthesis ()
after descriptions refer to the last
three characters on the serial number
label.

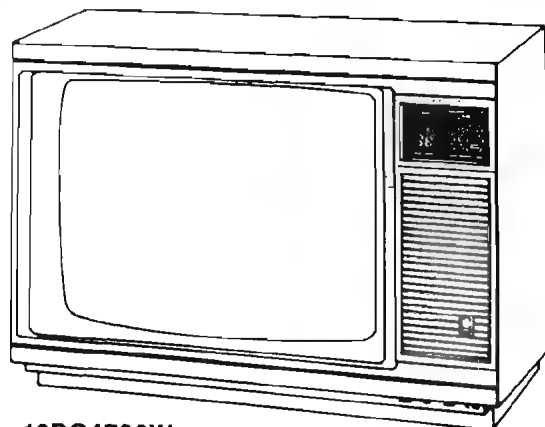
GENERAL ELECTRIC
TELEVISION
SERVICE INFORMATION

PC CHASSIS
19PC4730WD01/E01

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-D/E
TUNING SYSTEM:	KMP112
PICTURE TUBE:	* 19VMZP22
UHF/VHF TUNER:	* EP93X415
SPEAKER: 16 ohm, 4"	EP95X25
KMP112 TUNER CONTROL BOARD:	EP93X474
USER'S MANUAL:	29-9308-83



19PC4730W

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%
R4260	EP49X494	PICTURE-10K ohm, 20%
R4300	EP49X352	TINT-10K ohm 20%
R4301	EP49X352	COLOR-10K ohm, 20%
*SW4001	EP39X202	SWITCH-On/Off, Push-Push
S4010	EP39X134	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X181	Vol., & Channel Select

KNOBS

PART NO.	DESCRIPTION
EP43X445	ON/OFF, Black
EP43X341	Color, Tint, Brightness, & Picture, Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X508	CABINET BACK-Black, Plastic
ES3X29	CLIP-Antenna Terminal
EP2X540	CLIP-Power Cord Retainer
*EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X609	BRACKET-Keyboard Mounting, Plastic
EP99X473	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X524	ESCUTCHEON-Upper Controls & Speaker, Black, Plastic
EP54X246	OVERLAY-Primary Controls, Black, Lexan
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X534	SPRING-CRT Ground (2 Used)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (H) SERVICE A PART IN THE PARTS LIST AND THE SHADDED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOG PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (H) IN THE PARTS LIST AND THE SHADDED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

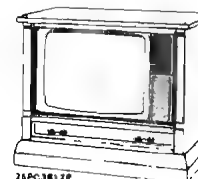
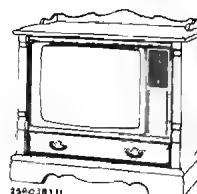
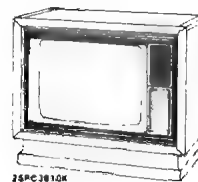
CHASSIS TYPE:	PC-A/B
TUNING SYSTEM:	Direct
PICTURE TUBE:	* 25VGY22
VHF TUNER:	* EP86X83
UHF TUNER:	* EP85X76
SPEAKER: 16 ohm, 4"	EP95X25

TELEVISION

PC CHASSIS

25PC2810KA02/B02
25PC2811LA02/B02
25PC2812PA02/B02

Check Service Number
before ordering parts.



- * Replace picture tube only with original type number or factory approved substitute

The characters in brackets - [] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
*EP49X477	R4194	ON/OFF, VOL.-50K ohm, 30%
EP49X412	R4220	BRIGHTNESS-10K ohm, 20%
EP49X412	R4260	PICTURE-10K ohm, 20%
EP49X412	R4300	TINT-10K ohm, 20%
EP49X412	R4301	COLOR-10K ohm, 20%

KNOBS

PART NO.	DESCRIPTION
EP43X338	ON/OFF, Vol., White, W/Retainer
EP43X434	VHF Selector, Chrome, W/Retainer
EP43X437	VHF Fine Tune, Black, W/Retainer
EP43X432	VHF Readout, Black Plastic, W/Bushing
EP43X435	UHF Selector, Black, W/Retainer
EP43X436	UHF Fine Tune, Black, W/Retainer
EP43X439	UHF Readout, Black Plastic

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 ohms Out, to 300 ohms In
EP37X59	ANTENNA TERMINAL BOARD-Complete
EP98X452	BACK-Hardboard (25PC2810K)
EP98X453	BACK-Hardboard (25PC2811L/25PC2812P)
ES3X29	CLIP-Antenna Terminal
EP2X540	CLIP-Power Cord Storage
*EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP2X82	RETAINER-Quick Lock (4 Used)
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X443	FRONT-Pecan Woodgrain, Plastic
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP91X79	DOOR-Controls Cover
EP2X376	DOOR CATCH
EP2X555	DOOR CLIP-Fastener
EP2X554	DOOR HINGE-W/Rivet, Plastic
EP89X468	ESCUTCHEON-UHF/VHF, Bronze, Lexan
EP4X354	LENS-UHF & VHF Readout
EP4X414	OVERLAY-Secondary Controls
EP41X128	PILOT LIGHT-UHF & VHF Indicator
EU34X192	SOCKET-Pilot Light, UHF & VHF Indicator

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X53	PULL-Decorative (Order 2) (25PC2811L)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-A/B
TUNING SYSTEM:	Direct
PICTURE TUBE:	* 25VGYP22
VHF TUNER:	* EP86X83
UHF TUNER:	* EP85X75 (A01)
UHF TUNER:	* EP85X76 (A02 & Later)
COLOR MONITOR MODULE:	EP93X382
SPEAKER: 16 ohm, 4"	EP95X25
USER'S MANUAL:	29-9212-82

- * Replace picture tube only with original type number or factory approved substitute.

The characters in brackets [] after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
*EP49X477	R4194	ON/CFF, VOL.-50K ohm, 30%
EP49X412	R4220	BRIGHTNESS-10K ohm, 20%
EP49X412	R4260	PICTURE-10K ohm, 20%
EP49X412	R4300	TINT-10K ohm, 20%
EP49X412	R4301	COLOR-10K ohm, 20%
EP39X134	S4010	COLOR MONITOR SWITCH-Slide Type

KNOBBS

EP43X338	ON/OFF, Vol., White, W/Retainer
EP43X434	VHF Selector, Chrome, W/Retainer
EP43X437	VHF Fine Tune, Black, W/Retainer
EP43X435	UHF Selector, Black, W/Retainer
EP43X436	UHF Fine Tune, Black, W/Retainer
EP43X432	VHF Readout, Black, W/Bushing
EP43X433	UHF Readout, Black (A01)
EP43X439	UHF Readout, Black (A02)

CABINET BACK PARTS

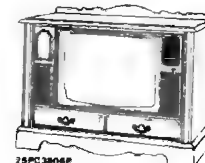
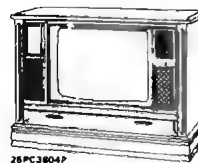
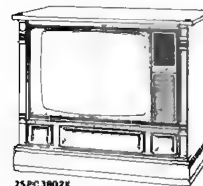
PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 ohm to 300 ohm, Antenna
EP37X59	ANTENNA TERMINAL BOARD-Complete
EP98X457	BACK-Hardboard (25PC3802K)
EP98X454	BACK-Hardboard (25PC3804P)
EP98X458	BACK-Hardboard (25PC3806M)
ES3X29	CLIP-Antenna Terminal
EP2X540	CLIP-Power Cord Storage
*EP66X19	CORD-Power Cord, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP2X82	RETAINER-Quick Lock (4 Used)
EP91X74	TUBE CAP-CRT Cover, Black Plastic

TELEVISION

PC CHASSIS

25PC3802KA01/A02/B02
25PC3804PA01/A02/B02
25PC3806MA01/A02/B02

Check Service Number
before ordering parts.



CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X423	FRONT-Oak Woodgrain, Plastic
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP2X542	BRACKET-Color Monitor Board Mounting, Plastic
EP2X376	DOOR CATCH
EP91X84	DOOR-Controls & Speaker Cover (25PC3802P)
EP91X81	DOOR-Controls & Speaker Cover (25PC3804P)
EP91X85	DOOR-Controls & Speaker Cover (25PC3806P)
EP2X555	DOOR FASTENER
EP2X554	DOOR HINGES-W/Rivets
EP89X468	ESCUTCHEON-UHF/VHF, Bronze, Lexan
EP4X354	LENS-UHF & VHF Readout
EP4X376	OVERLAY-Secondary Controls, Plastic
EP41X128	PILOT LIGHT-UHF/VHF Readout
EP2X554	RIVET-For Hinge, Plastic
EU34X192	SOCKET-Pilot Light
EP2X556	SPRING-CRT Mounting

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X53	PULL-Decorative, Order 2 (25PC3806M)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

REPLACEMENT PARTS LISTED IN THIS SERVICE INFORMATION ARE SHOWN IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM. PARTS LISTED IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM ARE NOT NECESSARILY THE SAME AS THE PARTS LISTED IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM. PARTS LISTED IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM ARE NOT NECESSARILY THE SAME AS THE PARTS LISTED IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM.

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-A
TUNING SYSTEM:	ET91
PICTURE TUBE:	* 25VGY22
UHF/VHF TUNER:	* EP93X415
COLOR MONITOR MODULE:	EP93X382
SPEAKER: 16 ohms, 4"	EP95X25
ET91 CONTROL BOARD ASSEMBLY	EP93X405
USER'S MANUAL:	29-9213-82

- * Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
*EP49X477	R4194	ON/OFF, VOL.-50K ohm, 30%
EP49X412	R4220	BRIGHTNESS-10K ohm, 20%
EP49X274	R4260	PICTURE-10K ohm, 20%
EP49X412	R4300	TINT-10K ohm, 20%
EP49X412	R4301	COLOR-10K ohm, 20%
EP39X134	S4010	COLOR MONITOR SWITCH-Slide Type

KNOBS

PART NO.	DESCRIPTION
EP43X414	CHANNEL SELECT-Black & Chrome, W/Retainer
EP43X338	ON/OFF, VOL., & PICTURE-Black, W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 to 300 ohms, Antenna
EP37X65	ANTENNA TERMINAL BOARD-Complete
EP98X452	BACK-Hardboard (25PC3810K)
EP98X453	BACK-Hardboard (25PC3811L/25PC3812P)
ES3X29	CLIP-Antenna Terminal
EP2X540	CLIP-Power Cord Storage
*EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP2X82	RETAINER-Quick Lock (4 Used)
EP91X74	TUBE CAP-CRT Cover, Black Plastic

TELEVISION

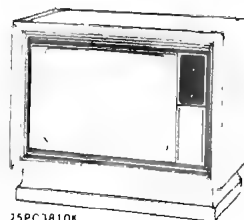
PC-A CHASSIS

25PC3810KA01

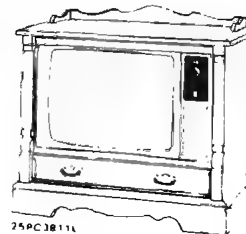
25PC3811LA01

25PC3812PA01

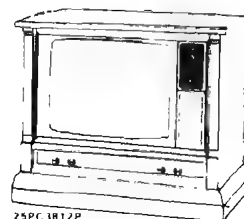
Check Service Number
before ordering parts.



25PC3810K



25PC3811L



25PC3812P

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X420	FRONT-Pecan, Plastic
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP2X542	BRACKET-Color Monitor Board Mounting, Plastic
EP41X137	CHANNEL NUMBER READOUT DISPLAY
EP91X79	DOOR-Controls Cover & Grille, Pecan
EP2X376	DOOR-Catch
EP2X555	DOOR-Fastener
EP89X465	ESCUTCHEON-Upper Control, Lexan
EP2X554	HINGES-Door W/Rivets
EP4X375	OVERLAY-Secondary Controls, Plastic
EP4X127	OVERLAY-Nameplate
EP2X554	RIVET-Plastic, For Hinge
EP1X33	RIVET-Plastic,

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X53	PULL-Decorative, Order Two (25PC3811L)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-A/B
TUNING SYSTEM:	SET112
PICTURE TUBE:	* 25VGY22
UHF/VHF TUNER:	* EP93X415
SPEAKER: 16 ohm, 4"	EP95X25
SET112 TUNER CONTROL BOARD:	EP93X418 (A01/B01)
SET112 TUNER CONTROL BOARD:	EP93X451 (B02 & Later)

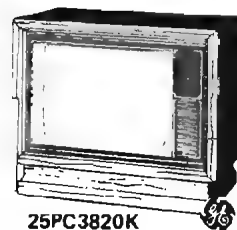
- Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver

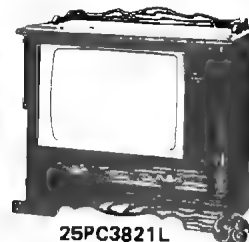
TELEVISION PC CHASSIS

25PC3820KA01/B01/B02
25PC3821LA01/B01/B02
25PC3822PA01/B01/B02

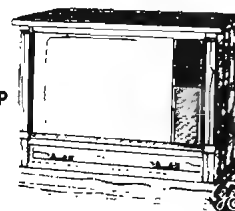
Check Service Number
before ordering parts.



25PC3820K



25PC3821L



25PC3822P

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X412	R4220	BRIGHTNESS-10K ohm, 20%
EP49X412	R4260	PICTURE-10K ohm, 20%
EP49X412	R4300	TINT-10K ohm, 20%
EP49X412	R4301	COLOR-10K ohm, 20%
*EP39X202	S4000	SWITCH-On/Off, Push-Push
EP39X134	S4010	COLOR MONITOR SWITCH-Slide Type
EP39X146	S5008	SWITCH-UHF Cable Select

KEYBOARD

PART NO.	DESCRIPTION
EP62X166	Vol., & Channel Select

KNOB

PART NO.	DESCRIPTION
EP43X443	ON/OFF, Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 ohms to 300 ohms
EP37X64	ANTENNA TERMINAL BOARD-Complete
EP98X452	BACK-Hardboard (25PC3820K)
EP98X453	BACK-Hardboard (25PC3821L/25PC3822P)
ES3X29	CLIP-Antenna Terminal
EP2X540	CLIP-Power Cord
*EP56X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP2X82	RETAINER-Quick Lock (4 Used)
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X442	FRONT-Pecan Woodgrain, Plastic
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP41X135	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X79	Door-Grille
EP4X413	DOOR-Keyboard Access
EP2X376	DOOR CATCH
EP2X555	DOOR HANDLE
EP2X554	DOOR HINGE-Plastic
EP89X483	ESCUTCHEON-Upper Controls, Pecan Woodgrain, Lexan
EP4X376	OVERLAY-Secondary Controls, Black, Plastic
EP1X33	RIVET-Plastic
EP3X37	SPRING-Access Door (2)
EP2X556	SPRING-CRT Ground (2)

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X53	KNOB-Decorative Order Two (25PC3821L)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-A/F
TUNING SYSTEM:	KMP112
PICTURE TUBE:	* 25UGYP22
UHF/VHF TUNER:	* EP93X415
LIGHT DEPENDENT RESISTOR RD:	EP41X120
VIR MODULE:	EP93X390
SPEAKER: 16 ohm, 4"	EP95X25
KMP112 CONTROL BOARD:	EP93X414 (A01)
KMP112 CONTROL BOARD:	EP93X446 (A02 & Later)
USER'S MANUAL:	29-9215-82

Replace picture tube only with original type number or factory approved substitute.

The characters in brackets [] after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

TELEVISION PC CHASSIS

25PC3835KA01/A02/B02/B03
25PC3836LA01/A02/B02/B03
25PC3837KA01/A02/B02/B03

Check Service Number
before ordering parts.



25PC3837K



25PC3836L



25PC3835K

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	R.F. NO.	DESCRIPTION
*EP49X477	R4194	ON/OFF, VOL.-50K ohm, 3%
EP49X412	R4220	BRIGHTNESS-10K ohm, 20%
EP49X412	R4260	PICTURE-10K ohm, 20%
EP49X412	R4300	TINT-10K ohm, 20%
EP49X412	R4301	COLOR-10K ohm, 20%
EP49X413	R4315	COLOR-Color Pref., 5K ohm, 20%
EP49X413	R4339	TINT-Tint Pref., 5K ohm, 20%

KEYBOARD

PART NO.	DESCRIPTION
EP93X185	CHANNEL SELECT

KNOBS

EP69X32	Color/Tint Pref., Shaft
EP43X338	ON/OFF, Vol.

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-Antenna, 75 to 300 Ohms
EP37X64	ANTENNA TERMINAL BOARD-Complete
EP98X449	BACK-Hardboard (25PC3835KA01)
EP98X450	BACK-Hardboard (25PC3836LA01)
EP90X451	BACK-Hardboard (25PC3837KA01)
EP3X29	CLIP-Antenna Terminal
EP2X540	CLIP-Power Cord Retainer
*EP46X19	CORD-AC Power, Polarized
EP4X159	COVER-Service Information, Black, Plastic
EP2X82	RETAINER-Quick Lock (4 Used)
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

FP99X419	FRONT-Oak, Plastic
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP41X135	CHANNEL NUMBER READOUT DISPLAY (A01/A02/B02)
EP41X139	CHANNEL NUMBER READOUT DISPLAY (B03 & Later)
EP91X76	DOOR-W/Grille Cloth (25PC3836L)
EP91X77	DOOR-W/Grille Cloth (25PC3837K)
EP2X376	DOOR CATCH
EP89X429	ESCUTCHEON-Upper Controls, Oak, Plastic
EP2X554	HINGES-W/Plastic Rivet
EP2X157	LIGHT PIPE-Light Sensor
EP4X374	OVERLAY-Secondary Controls, Black, Plastic
EP41X14	PILOT LIGHT-VIR, Red
EP2X236	RETAINER-LED Holder
EP2X554	RIVET-W/Hinge, Plastic

MISCELLANEOUS

EP68X7	CASTER-W/Socket
EP4X182	KNOB-Decorative, Order 2 (25PC3836L/25PC3837K)
EP4X193	PULL-Decorative, (25PC3836L/25PC3837K)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATE COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE A SHOCK, FIRE OR OTHER HAZARDS OR EXCESSIVE X RADIATION.

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-A/B
TUNING SYSTEM:	LMP112
PICTURE TUBE:	* 25VGY22
UHF/VHF TUNER:	EP93X415
COLOR MONITOR MODULE:	EP93X382
REMOTE CONTROL RECEIVER MODULE:	EP93X417 (A01/A02/B02)
REMOTE CONTROL RECEIVER MODULE:	EP93X475 (B03 & Later)
REMOTE CONTROL TRANSMITTER:	EP62X164
SPEAKER: 16 ohm, 4"	EP95X25
LMP112 CONTROL CIRCUIT BOARD:	EP93X413 (A01)
LMP112 CONTROL CIRCUIT BOARD:	EP93X445 (A02 & Later)
USER'S MANUAL:	29 9216-82

- * Replace picture tube only with original type number or factory approved substitute.

The characters in brackets - [] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

TELEVISION PC CHASSIS

25PC3840KA01/A02/B02/B03
25PC3841LA01/A02/B02/B03
25PC3842PA01/A02/B02/B03
25PC3844PA01/A02/B02/B03

Check Service Number
before ordering parts.



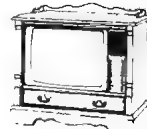
25PC3840K



25PC3844P



25PC3842P



25PC3841L

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X412	R4220	BRIGHTNESS-10K ohm, 20%
EP49X412	R4260	PICTURE-10K ohm, 20%
EP49X412	R4300	TINT-10K ohm, 20%
EP49X412	R4301	COLOR 10K ohm, 20%
EP39X134	S4010	COLOR MONITOR SWITCH-Slide Type
EP39X146	S5008	UHF CABLE SWITCH-Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X161	ON/OFF, Vol., Channel Select (A01/A02/B02)
EP62X174	ON/OFF, Vol., Channel Select (B03 & Later)

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-73 to 300 ohms, Antenna
EP37X64	ANTENNA TERMINAL BOARD-Complete
EP98X452	BACK-Hardboard (25PC3840K)
EP98X453	BACK-Hardboard (25PC3842P/25PC3841L)
EP98X454	BACK-Hardboard (25PC3844P)
ES3X29	CLIP-Antenna Terminal
EP66X19	CORD-AC Power, Polarized
EP4X149	COVER-Service Information, Black, Plastic
EP2X82	RETAINER Quick Lock (4 Used)
EP2X540	RETAINER-Power Cord
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

EP99X421	FRONT-OAK Woodgrain, Plastic
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP2X542	BRACKET-Color Monitor Board Mounting, Plastic
EP41X135	CHANNEL NUMBER READOUT DISPLAY (A01/A02/B02)
EP41X139	CHANNEL NUMBER READOUT DISPLAY (B03 & Later)
EP2X376	DOOR CATCH
EP91X80	DOOR-Controls Cover & Speaker Grille (25PC3840K/25PC3841L/25PC3842P)
EP91X81	DOOR-Controls Cover & Speaker Grille (25PC3844P)
EP2X555	DOOR FASTENER-(25PC3840K/41K/42P)
EP2X554	DOOR HINGE-W/ Plastic Rivet
EP89X466	ESCUTCHEON-Upper Controls, Oak, Lexan
EP4X376	OVERLAY-Secondary Control Black, Plastic
EP4X377	OVERLAY-LMP Inlay, Plastic
EP4X127	OVERLAY-Nameplate
EP1X33	RIVET-Plastic

MISCELLANEOUS

EP68X7	CASTER-W/Socket
EP4X53	KNOB-Decorative, Order 2 (25PC3841L)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A * IN THE PARTS LIST AND THE SHOWN PARTS IN THE SCHEMATIC DIAGRAM MAY BE A HAZARDOUS ACTION WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, BURN OR OTHER INJURY.

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE: PC-A/B
TUNING SYSTEM: LMP112
PICTURE TUBE: * 25VGYP22
UHF/VHF TUNER: * EP93X415
LIGHT DEPENDENT RESISTOR BD: EP41X120
REMOTE CONTROL RECEIVER MODULE: EP93X417 (A01/A02/B02)
REMOTE CONTROL RECEIVER MODULE: EP93X475 (B03 & Later)
REMOTE CONTROL TRANSMITTER: EP62X164
VIR MODULE: EP93X390
SPEAKER: 16 ohm, 4" EP95X25 25PC3845K/46L/47K
SPEAKER: 32 ohm, 4" (2 USED) EP95X14 25PC3848K/49P
LMP112 CONTROL CIRCUIT BOARD: EP93X413 (A01)
LMP112 CONTROL CIRCUIT BOARD: EP93X445 (A02 & Later)
USER'S MANUAL: 29-9217-82

* Replace picture tube only with original type number or factory approved substitute.

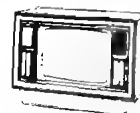
The characters in brackets - [] - after some part descriptions refer to the last three characters in the service number. The service number is printed either on the serial number label or a separate label attached to the back of the receiver.

PC CHASSIS
25PC3845KA01/A02/B02/B03
25PC3846LA01/A02/B02/B03
25PC3847KA01/A02/B02/B03
25PC3848KA01/A02/B02/B03
25PC3849PA01/A02/B02/B03

Check Service Number
before ordering parts.



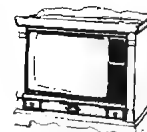
25PC3849P



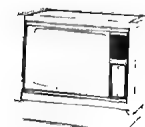
25PC3848K



25PC3847K



25PC3846L



25PC3845K

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

PART NO.	REF. NO.	DESCRIPTION
EP49X412	R4220	BRIGHTNESS-10K ohm, 20%
EP49X412	R4260	PICTURE-10K ohm, 20%
EP49X412	R4300	TINT-10K ohm, 20%
EP49X412	R4301	COLOR-10K ohm, 20%
EP49X413	R4315	COLOR-VIR Color Pref., 5K ohm 20%
EP49X413	R4339	TINT-VIR Tint Pref., 5K ohm, 20%
EP39X146	S5008	UHF CABLE SWITCH-Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X161	ON/OFF, VOL, CHANNEL SELECT (A01/A02/B02)
EP62X174	ON/OFF VOL, CHANNEL SELECT (B03 & Later)

KNORS

EP69X32	Color/Tint Pref, Shaft
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CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-75 To 300 Ohms, Antenna
EP37X64	ANTENNA TERMINAL BOARD-Complete
EP98X449	BACK-Hardboard (25PC3845K)
EP98X450	BACK-Hardboard (25PC3846L)
EP98X451	BACK-Hardboard (25PC3847K)
EP98X455	BACK-Hardboard (25PC3848K)
EP98X456	BACK-Hardboard (25PC3849P)
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information Black, Plastic
EP2X82	RETAINER-Quick Lock (4 Used)
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

EP99X422	FRONT-Oak Woodgrain, Plastic
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP2X542	BRACKET-VIR Board Mounting, Plastic
EP41X135	CHANNEL NUMBER READOUT DISPLAY (A01/A02/B02)
EP41X139	CHANNEL NUMBER READOUT DISPLAY (B03 & Later)
EP91X78	DOOR-Controls Cover & Speaker Grille (25PC3845K)
EP91X76	DOOR-Controls Cover & Speaker Grille (25PC3846L)
EP91X77	DOOR-Controls Cover & Speaker Grille (25PC3847K)
EP91X82	DOOR-Controls Cover & Speaker Grille (25PC3848K)
EP91X83	DOOR-Controls Cover & Speaker Grille (25PC3849P)
EP2X376	DOOR CATCH
EP2X554	DOOR HINGE-W/Plastic Rivet
EP89X467	ESCUTCHEON-Upper Controls, Oak, Lexan
FP2X157	LIGHT PIPE-Light Sensor
EP4X374	OVERLAY-Secondary Controls, Black, Plastic
EP4X378	OVERLAY-LMP Inlay, Black Plastic
EP4X127	OVERLAY-Nameplate
EP41X14	PILOT LIGHT-VIR, Red
EP1X33	RIVET-Plastic

MISCELLANEOUS

EP68X7	CASTER-W/Socket
EP4X182	KNOB-Decorative, Order 2 (25PC3846L/25PC3847K)
EP4X193	PULI-Decorative (25PC3846L/25PC3847K)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE LIST BEHIND A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

**CHECK SERVICE NUMBERS
BEFORE ORDERING PARTS**
The characters in parenthesis ()
after descriptions refer to the last
three characters on the serial number
label.

GENERAL ELECTRIC

TELEVISION

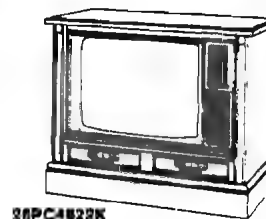
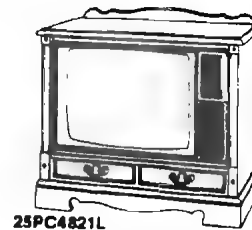
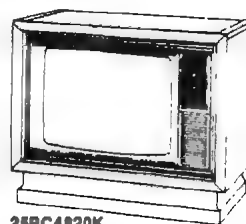
SERVICE INFORMATION

PC CHASSIS
25PC4820KC01/D01
25PC4821LC01/D01
25PC4822KC01/D01

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-C/D
TUNING SYSTEM:	SET112
PICTURE TUBE:	* 25VGY22
UHF/VHF TUNER:	* EP93X415
SPEAKER: 16 ohm, 4 X 4"	EP95X25
SET112 TUNER CONTROL BOARD:	EP93X473
USER'S MANUAL:	29-9314-83



CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%
R4260	EP49X493	PICTURE-10K ohm, 20%
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
*S4000	EP39X202	SWITCH-ON/OFF, Push-Push
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X177	VOL., & CHANNEL SELECT

KNOB

PART NO.	DESCRIPTION
EP43X446	ON/OFF, Black, Lexan

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP98X489	BACK-Hardboard (25PC4820K)
EP98X490	BACK-Hardboard (25PC4821K)
EP98X491	BACK-Hardboard (25PC4822K)
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X460	FRONT-Oak Woodgrain, Plastic
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green
EP4X413	DOOR-Access, Controls
EP91X80	DOOR-Grille
EP2X376	DOOR CATCH
EP2X555	DOOR HANDLE
EP2X554	DOOR HINGE
EP89X506	ESCUTCHEON-Upper Controls, Pecan, Plastic
EP4X376	OVERLAY-Secondary Controls, Black
EP1X33	RIVET-Plastic, Door Hinge
EP3X37	SPRING-Access Door (2 Used)

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

**CHECK SERVICE NUMBERS
BEFORE ORDERING PARTS**

The characters in parenthesis ()
after descriptions refer to the last
three characters on the serial number
label.

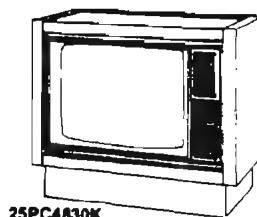
GENERAL ELECTRIC
TELEVISION
SERVICE INFORMATION

PC CHASSIS
25PC4830KC01/D01
25PC4831MC01/D01
25PC4832PC01/D01

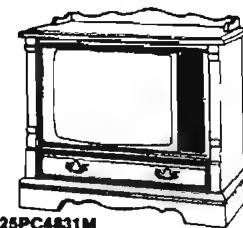
GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

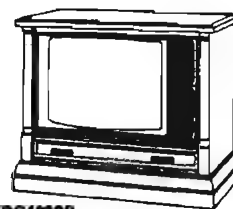
CHASSIS TYPE: PC-C/D
TUNING SYSTEM: KMPV112
PICTURE TUBE: * 25VGY22
UHF/VHF TUNER: * EP93X415
SPEAKER: 16 ohm, 4 X 4" EP95X25
KMPV112 TUNER CONTROL BOARD: EP93X474
USER'S MANUAL: 29-9315-83



25PC4830K



25PC4831M



25PC4832P

CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%
R4260	EP49X493	PICTURE-10K ohm, 20%
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
*S4000	EP39X202	SWITCH-On/Off, Push-Push
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X181	Vol., & Channel Select

KNOB

PART NO.	DESCRIPTION
EP43X447	ON/OFF, Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP98X485	BACK-Hardboard (25PC4830K)
EP98X484	BACK-Hardboard (25PC4831M/25PC4832P)
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X461	FRONT-Oak Woodgrain, Plastic
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X80	DOOR-Grille
EP2X376	DOOR CATCH
EP2X555	DOOR HANDLE
EP2X554	DOOR HINGE
EP89X509	ESCUTCHEON-Upper Controls, Oak
EP4X376	OVERLAY-Secondary Controls, Black
EP1X33	RIVET-Plastic, Hinge

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X53	PULL-Decorative (Order 2) (25PC4831M)
EP4X181	PULL-Decorative (Order 2) (25PC4832P)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

**CHECK SERVICE NUMBERS
BEFORE ORDERING PARTS**

The characters in parenthesis () after descriptions refer to the last three characters on the serial number label.

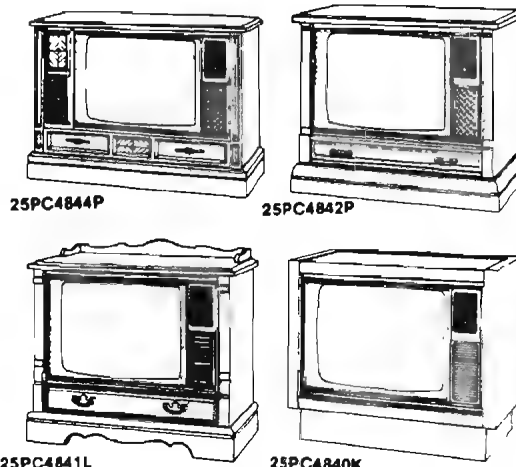
GENERAL ELECTRIC
TELEVISION
SERVICE INFORMATION

PC CHASSIS
25PC4840KC01/D01
25PC4841LC01/D01
25PC4842PC01/D01
25PC4844PC01/D01

GENERAL INFORMATION

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	PC-C/D
TUNING SYSTEM:	LMP112
PICTURE TUBE:	* 25VGY22
UHF/VHF TUNER:	* EP93X415
REMOTE CONTROL RECEIVER MODULE:	EP93X482
REMOTE CONTROL TRANSMITTER:	EP62X164
SPEAKER: 16 ohm, 4"	EP95X25
LMP112 TUNER CONTROL BOARD:	EP93X470
USER'S MANUAL:	29-9317-83



CABINET AND APPEARANCE REPLACEMENT PARTS LIST

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%
R4260	EP49X493	PICTURE-10K ohm, 20%
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X174	ON/OFF, VOL., & CHANNEL SELECT

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP98X485	BACK-Hardboard (25PC4840K)
EP98X484	BACK-Hardboard (25PC4841L/25PC4842P)
EP98X486	BACK-Hardboard (25PC4844P)
ES3X29	CLIP-Antenna Terminal
*EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X459	FRONT-Oak Woodgrain, Plastic
EP2X553	BRACKET-CRT Corner Mounting
EP41X139	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X80	DOOR-Grille (25PC4840K)
EP91X100	DOOR-Controls & Speaker Cover (25PC4841L)
EP91X101	DOOR-Controls & Speaker Cover (25PC4842P)
EP91X102	DOOR-Controls & Speaker Cover (25PC4844P)
EP2X376	DOOR CATCH
EP2X555	DOOR HANDLE-(25PC4840K)
EP2X554	DOOR HINGE-2 Used
EP89X501	ESCUTCHEON-Upper Controls, Oak, Plastic
EP4X376	OVERLAY-Secondary Controls, Black
EP4X377	OVERLAY-LMP112 Inlay, Black, Plastic
EP4X420	OVERLAY-Nameplate
EP1X33	RIVET-Plastic

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X181	PULL-Decorative (Order 2) (25PC4842P/25PC4844P)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

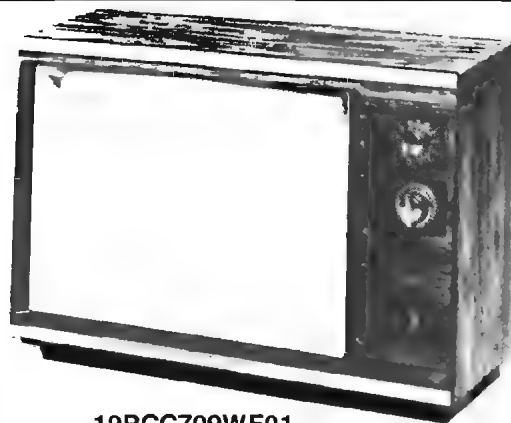
PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (R) SYMBOL A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (R) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARD OR EXCESSIVE HEAT.

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	Direct
PICTURE TUBE:	★ A48ACE26X
VHF TUNER:	★ EP86X88
UHF TUNER:	★ EP85X76
SPEAKER: 32 ohm, 4"	EP95X14
USER'S MANUAL:	29-9223-84



19PCC709WF01

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★ R4194	EP49X471	ON/OFF, VOL.-50K ohm, 30%
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%
R4260	EP49X494	PICTURE-10K ohm, 20%
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
R5198	EP49X475	VOL. LIMITER-50K ohm, 20%

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X363	FIDDLE FREE KNOB-Fine Tune, Black
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel
	EP43X338	ON/OFF, VOL.-Black, W/Retainer
	EP43X381	VHF SELECTOR-Black, W/Retainer
	EP43X388	VHF FINE TUNE-Black, W/Retainer
	EP43X359	UHF SELECTOR-Black, W/Retainer
	EP43X361	UHF FINE TUNE-Black, W/Retainer
	EP43X442	UHF INDICATOR-Black, W/Retainer

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP37X56	ANTENNA TERMINAL BOARD-Complete
	EP98X543	CABINET BACK-Black, Plastic
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★ EP66X19	CORD-AC Power, Polarized
	EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP99X517	CABINET FRONT-Cherry Woodgrain, Plastic
	EP89X450	ESCUTCHEON-UHF/VHF & Speaker, Cherry Woodgrain
	EP4X448	FIDDLE FREE COVER-Thumbwheel
	EP4X358	OVERLAY-UHF & VHF Readout, Plastic
	EP4X291	OVERLAY-Secondary Controls Inlay
	EP4X420	OVERLAY-Nameplate
	EP2X534	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

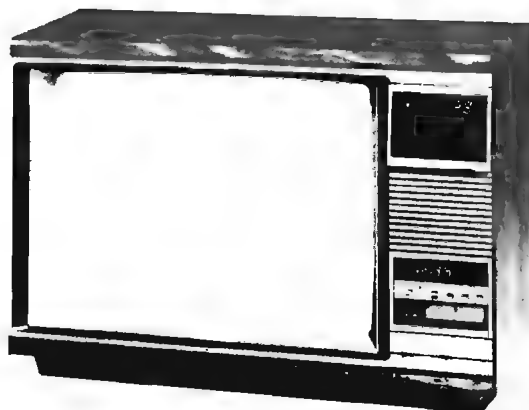
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	KMPS3-112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X539
BATTERY:	EP58X3
POWER SUPPLY/	
RADIO/CLOCK/KEYBOARD:	EP93X549
RADIO CIRCUIT BOARD: W/Vol Limiter	EP93X547
RELAY CIRCUIT BOARD:	EP93X548
SPEAKER: 32 ohm, 4"	EP95X14
KMPS3-112 TUNER CONTROL BOARD:	EP93X530



19PCL739WF01

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
R5198/ R5199	EP49X503	VOLUME LIMITER-T.V., 25K ohm, 30%
		Radio, 100K ohm, 30%
KSW01	EP39X207	SWITCH-Radio/TV Select, Push & Lock
KSW02	EP39X207	SWITCH-On/Off Clock Alarm, Push & Lock
KSW03	EP39X206	SWITCH-Clock Alarm Set, Push
KSW04	EP39X206	SWITCH-Clock Fast, Push
KSW05	EP39X206	SWITCH-Clock Slow, Push
KSW06	EP39X206	SWITCH-Clock Time Set, Push
S1	EP39X212	SWITCH-AM/FM, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X203	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel
	EP47X64	TV/RADIO, & ALARM OFF/ON
	EP43X449	RADIO-Volume, Black, W/Retainer
	EP43X450	RADIO-Tuning, Black
	EP43X65	SET/FAST/SLOW/TIME SET

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP37X72	ANTENNA TERMINAL BOARD- Complete
	EP98X543	CABINET BACK-Black, Plastic
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★EP66X19	CORD-AC Power, Polarized
	EP4X175	COVER-Service Information, Black, Plastic

(Cont.)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

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CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP92X122	BRACKET-Radio Support, Plastic
	EP92X134	BRACKET-Keyboards Mounting, Plastic
	EP99X512	CABINET FRONT-Cherry Woodgrain, Plastic
	EP41X147	CLOCK TIMER READOUT DISPLAY
	EP4X495	DIAL-AM/FM Radio
	EP89X574	ESCUTCHEON-Upper Controls, Speaker, & Radio Black, Plastic
	EP4X448	FIDDLE FREE COVER- Thumbwheel, Black, Plastic
	EP4X498	FIDDLE FREE COVER-Keyboards, Black Lexan
	EP2X612	GEAR-Radio Tuning
	EP4X291	OVERLAY-TV, Secondary Controls Inlay
	EP4X420	OVERLAY-Nameplate
	EP2X613	POINTER-Radio Dial
	EP2X534	SPRING-CRT Ground
	EP41X140	TV CHANNEL NUMBER READOUT DISPLAY-Green

IMPORTANT SAFETY NOTICE

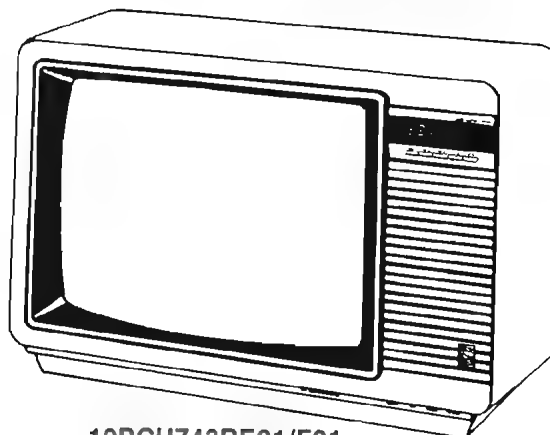
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-E/F
TUNING SYSTEM:	LMP1-112
PICTURE TUBE:	★ 19VMZP22 (E01)
PICTURE TUBE:	★ A48ACE26X (F01)
UHF/VHF TUNER:	★ EP93X539
REMOTE POWER RELAY	
CIRCUIT BOARD:	EP93X544
REMOTE CONTROL	
RECEIVER MODULE:	EP93X480
REMOTE CONTROL	
TRANSMITTER:	EP62X164
SPEAKER: 16 ohm, 4"	EP95X25 (E01)
SPEAKER: 32 ohm, 4"	EP95X14 (F01)
LMP1-112 TUNER CONTROL BOARD:	EP93X538



19PCH743BE01/F01

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
R5198	EP49X475	VOL LIMITER-50K ohm, 20%
SW5008	EP49X146	SWITCH-Cable Select, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X174	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP37X67	ANTENNA TERMINAL BOARD-Complete
	EP98X477	CABINET BACK-Black, Plastic
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★ EP66X19	CORD-AC Power, Polarized
	EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP92X106	BRACKET-Keyboard Mounting, Plastic
	EP99X508	CABINET FRONT-Beige, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP89X554	ESCUTCHEON-LMP1-112 Tuning, Plastic
	EP4X448	FIDDLE FREE PANEL-Thumbwheel
	EP89X505	GRILLE-Speaker
	EP4X291	OVERLAY-Secondary Controls, Inlay
	EP4X420	OVERLAY-Nameplate
	EP2X534	SPRING-CRT Ground
	EP4X365	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

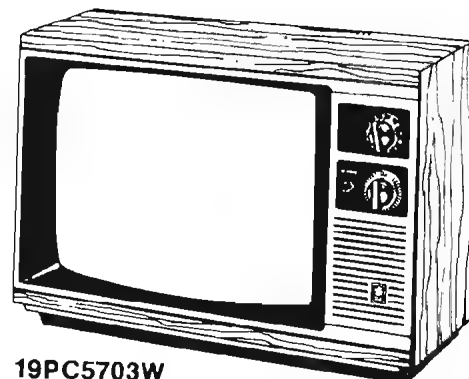
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SERVICE INFORMATION

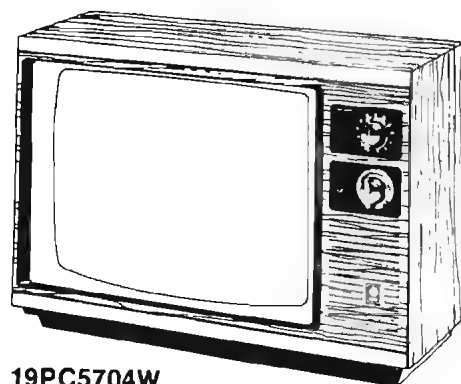
PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	Direct
PICTURE TUBE:	★A48ACE26X
VHF TUNER:	★EP86X88
UHF TUNER:	★EP85X76
SPEAKER: 32 ohm, 4"	EP95X14
USER'S MANUAL:	29-9201-84



19PC5703W



19PC5704W

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★R4194	EP49X471	ON/OFF, VOL.-50K ohm, 30%
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type (19PC5704W/19PC5707W)
SW5008	EP39X146	SWITCH-Cable Select,

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel
	EP43X338	ON/OFF, VOL.-Black, W/Retainer
	EP43X381	VHF SELECTOR-Black, W/Retainer
	EP43X388	VHF FINE TUNE-Black, W/Retainer
	EP43X359	UHF SELECTOR-Black, W/Retainer
	EP43X361	UHF FINE TUNE-Black, W/Retainer
	EP43X442	UHF INDICATOR-Black, W/Retainer

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down
	EP37X53	ANTENNA TERMINAL BOARD- Complete
	EP2X582	BRACKET-VHF Antenna Mounting, Plastic
	EP98X508	CABINET BACK-Black, Plastic
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
★	EP66X19	CORD-AC Power, Polarized
	EP4X175	COVER-Service Information, Black, Plastic
	EP2X635	RETAINER-Push Fastener (2 Used)
	EP1X33	RIVET-Plastic

(Cont.)

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CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP99X509	CABINET FRONT-Cherry Woodgrain, Plastic (19PC5703W)
	EP99X510	CABINET FRONT-Cherry Woodgrain, Plastic (19PC5704W)
	EP99X522	CABINET FRONT-Rosewood Woodgrain, Plastic (19PC5707W)
	EP89X572	ESCUTCHEON-UHF/VHF & Speaker, Black, Plastic (19PC5703W)
	EP89X450	ESCUTCHEON-UHF/VHF & Speaker, Cherry Woodgrain, Plastic (19PC5704W)
	EP89X582	ESCUTCHEON-UHF/VHF & Speaker, Rosewood Woodgrain, Plastic (19PC5707W)
	EP4X497	OVERLAY-UHF Direct Readout, Black, Plastic (19PC5703W/04W)
	EP4X350	OVERLAY-VHF Direct Readout, Black, Plastic (19PC5703W/04W)
	EP4X516	OVERLAY-UHF/VHF Direct Readout, Black, Plastic (19PC5707W)
	EP4X291	OVERLAY-Secondary Controls In- lay (19PC5703W)
	EP4X292	OVERLAY-Secondary Controls In- lay (19PC5704W)
	EP4X517	OVERLAY-Secondary Controls In- lay (19PC5707W)
	EP4X420	OVERLAY-Nameplate
	EP41X14	PILOT LIGHT-Bilingual Indicator, Red, Y4001 (19PC5707W)
	EP2X534	SPRING-CRT Ground

IMPORTANT SAFETY NOTICE

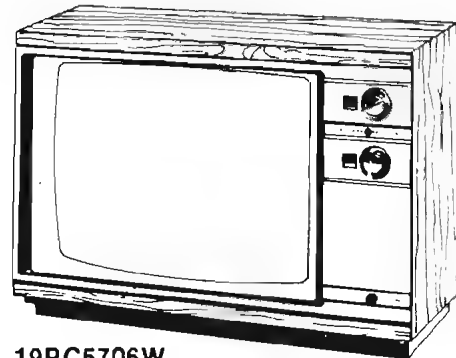
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE: 19" PC-F
TUNING SYSTEM: Direct
PICTURE TUBE: ★ A48ACE26X
VHF TUNER: ★ EP86X88
UHF TUNER: ★ EP85X76
SPEAKER: 32 ohm, 4" EP95X14
USER'S MANUAL: 29-9201-84



19PC5706W

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★ R4194	EP49X473	ON/OFF, VOL.-50K ohm, 30%
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel
	EP43X338	ON/OFF, VOL.-Black, W/Retainer
	EP43X434	VHF SELECTOR-Black, W/Retainer
	EP43X437	VHF FINE TUNE-Black, W/Retainer
	EP43X432	VHF DISC READOUT-Black, W/Retainer
	EP43X435	UHF SELECTOR-Black, W/Retainer
	EP43X436	UHF FINE TUNE-Black, W/Retainer
	EP43X439	UHF DISC READOUT-Black, W/Re- tainer

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down
	EP37X53	ANTENNA TERMINAL BOARD- Complete
	EP2X582	BRACKET-VHF Antenna Mounting, Plastic
	EP98X508	CABINET BACK-Black, Plastic
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★ EP66X19	CORD-AC Power, Polarized
	EP4X175	COVER-Service Information, Black, Plastic
	EP2X635	RETAINER-Push Fastener (2 Used)
	EP1X33	RIVET-Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP99X511	CABINET FRONT-Cherry Woodgrain, Plastic
	EP89X573	ESCUTCHEON-Primary Controls, Plastic
	EP89X454	GRILLE-Speaker
	EP4X354	LENS-UHF & VHF Readout, Plastic
	EP4X354	OVERLAY-UHF/VHF, Silver, Plastic
	EP4X292	OVERLAY-Secondary Controls Inlay
	EP41X128	PILOT LIGHT-UHF & VHF Indicator
	EP2X534	SPRING-CRT Ground

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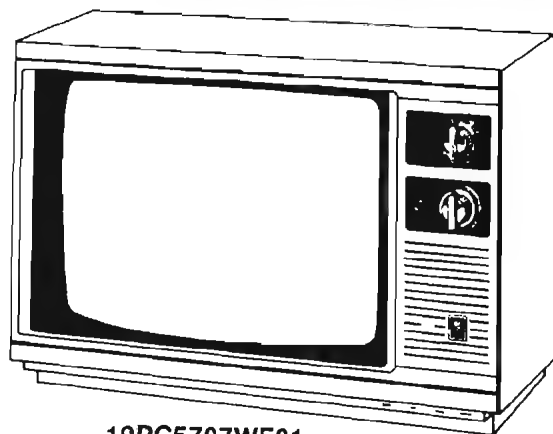
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM	Direct
PICTURE TUBE.	★ A48ACE26X
VHF TUNER:	★ EP86X88
UHF TUNER:	★ EP85X76
BILINGUAL DECODER	
CIRCUIT BOARD:	EP93X555
SPEAKER: 32 ohm, 4"	EP95X14
USER'S MANUAL:	29-9247-84



19PC5707WF01

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★ R4194	EP49X471	ON/OFF, VOL -50K ohm, 30%
R4220	EP49X494	BR GHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	T,NT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
SW1	EP39X53	SWITCH-Bilingual Defeat Slide Type
S4010	EP39X53	SWITCH-Color Monitor, Slide Type

EP37X53	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X508	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)
EP1X33	RIVET-Plastic

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel
	EP43X338	ON/OFF, VOL.-Black, W/Retainer
	EP43X381	VHF SELECTOR-Black, W/Retainer
	EP43X388	VHF FINE TUNE-Black, W/Retainer
	EP43X359	UHF SELECTOR-Black, W/Retainer
	EP43X361	UHF FINE TUNE-Black, W/Retainer
	EP43X442	UHF INDICATOR-Black, W/Retainer

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP99X522	CABINET FRONT-Rosewood Woodgrain, Plastic
	EP89X582	ESCUTCHEON-UHF/VHF & Speaker, Rosewood, Plastic
	EP4X516	OVERLAY-UHF & VHF Direct Readout
	EP4X517	OVERLAY-Secondary Controls, Black, Plastic
	EP4X420	OVERLAY-Nameplate
	EP41X41	PILOT LIGHT-Bilingual Indicator, Red
	EP41X14	PILOT LIGHT-VIR, Red, Y4001
	EP2X534	SPRING-CRT Ground

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down

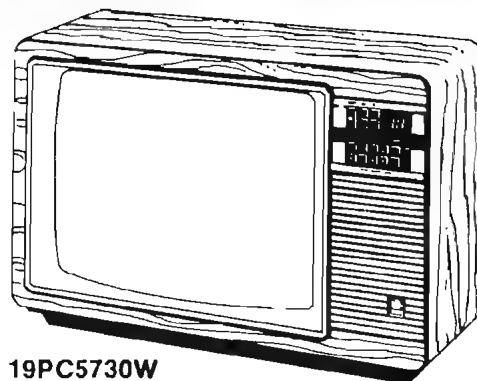
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CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	KMPS112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X539
SPEAKER: 32 ohm, 4"	EP95X14
KMPS112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9203-84



19PC5730W

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-Detent, 10K ohm, 20%
R4260	EP49X494	PICTURE-Detent, 10K ohm, 20%
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
S4010	EP49X134	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X481	CABINET BACK-Black, Plastic
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X190	ON/OFF, VOL., & CHANNEL SELECT

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP2X625	BRACKET-Keyboard Mounting, Plastic
	EP99X494	CABINET FRONT-Cherry Woodgrain, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP89X553	ESCUTCHEON-Primary Controls, W/Window, Plastic
	EP89X437	GRILLE-Speaker, Cherry Woodgrain, Plastic
	EP4X292	OVERLAY-Secondary Controls, Vinyl
	EP4X420	OVERLAY-Nameplate
	EP2X534	SPRING-CRT Ground

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete

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IMPORTANT SAFETY NOTICE

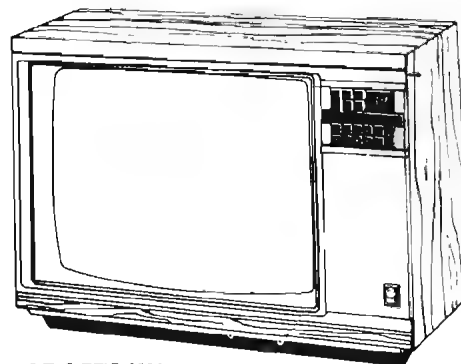
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	KMPS2-112
PICTURE TUBE:	★ A48ACE26X
UHF/VHF TUNER:	★ EP93X539
SPEAKER: 32 ohm, 4"	EP95X14
KMPS2-112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9203-84



19PC5734W

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X190	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In. to 75 ohms Out
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowtie Type

EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X508	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP2X638	BRACKET-Speaker Mounting, Plastic
	EP99X519	CABINET FRONT-Cherry Woodgrain, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP89X580	ESCUTCHEON Upper Controls, W/Readout Window
	EP89X578	GRILLE-Speaker
	EP4X292	OVERLAY-Secondary Controls, Inlay
	EP4X420	OVERLAY-Nameplate
	EP2X534	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	KMPS130
PICTURE TUBE:	★ A48ACE40X
UHF/VHF TUNER:	★ EP93X502
LIGHT DEPENDENT RESISTOR BOARD:	EP41X146
VIR MODULE:	EP93X462
SPEAKER: 32 ohm, 4"	EP95X14
KMPS130 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9204-84



19PP5736WF01

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%
R4260	EP49X494	PICTURE-10K ohm, 20%
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
SW4005	EP39X53	SWITCH-VIR, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X190	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowt e Type

EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X538	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP2X625	BRACKET-KeyBoard Mounting, Plastic
	EP99X497	CABINET FRONT-Cherry Woodgrain, Plastic
	EP41X140	CHANNEL NUMBER READOUT
	EP89X556	DISPLAY-Green
	EP89X556	ESCUTCHEON-Upper Control, W/Window, Plastic
	EP89X560	GRILLE-Speaker, Black
	EP2X157	LIGHT PIPE-Light Sensor, Plastic
	EP4X345	OVERLAY-Secondary Controls, Vinyl
	EP4X420	OVERLAY-Nameplate
	EP41X14	PILOT LIGHT-VIR, Red
	EP2X534	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

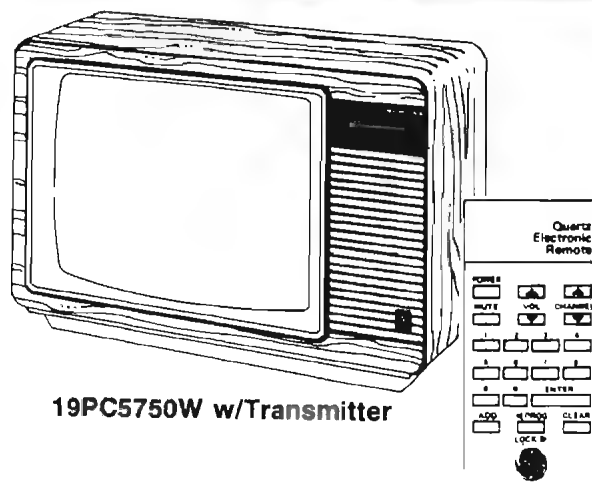
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	MP1A-112 (F01)
TUNING SYSTEM:	MP1A-112 (F02)
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X539
REMOTE CONTROL RECEIVER MODULE:	EP93X480
REMOTE CONTROL TRANSMITTER:	EP62X165
SPEAKER: 32 ohm, 4"	EP95X14
MP1A-112 TUNER CONTROL BOARD:	EP93X531 (F01)
MP1A-112 TUNER CONTROL BOARD:	EP93X538 (F02)
USER'S MANUAL:	29-9205-84



19PC5750W w/Transmitter

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-Detent, 10K ohm, 20%
R4260	EP49X494	PICTURE-Detent, 10K oh, 20%
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
S4010	EP39X134	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X174	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete

EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X481	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP92X106	BRACKET-KeyBoard Mounting, Plastic
	EP99X494	CABINET FRONT-Cherry Woodgrain, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP89X554	ESCUTCHEON-Primary Controls, Plastic
	EP89X480	GRILLE-Speaker, Cherry Woodgrain
	EP4X292	OVERLAY-Secondary Control, Vinyl
	EP4X420	OVERLAY-Nameplate
	EP2X534	SPRING-CRT Ground
	EP4X365	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

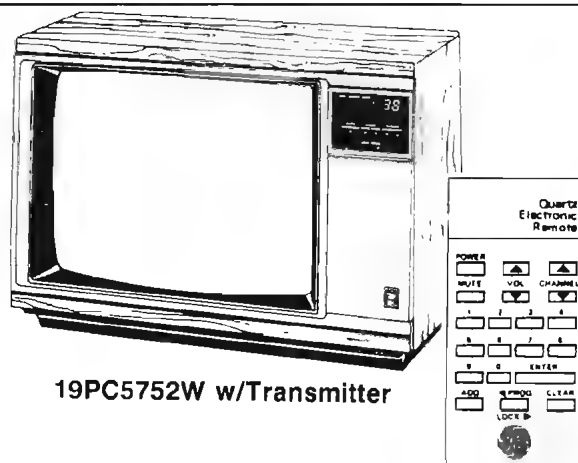
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	MP1A-112
PICTURE TUBE:	★ A48ACE26X
UHF/VHF TUNER:	★ EP93X539
REMOTE CONTROL RECEIVER MODULE:	EP93X480
REMOTE CONTROL TRANSMITTER:	EP62X197
SPEAKER: 32 ohm, 4"	EP95X14
MP1A-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9205-84



19PC5752W w/Transmitter

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%
R4260	EP49X494	PICTURE-10K ohm, 20%
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X188	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down

EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X508	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP2X638	BRACKET-Speaker Mounting, Plastic
	EP92X133	BRACKET-Keybaord Mounting, Plastic
	EP99X518	CABINET FRONT-Cherry Woodgrain, Plastic
	EP41X140	CHANNEL NUMBER READOUT
	EP89X579	DISPLAY-Green
	EP89X578	ESCUTCHEON-Upper Control, Black, Plastic
	EP4X292	GRILLE CLOTH-Speaker Overlay-Secondary Controls Inlay
	EP4X420	OVERLAY-Nameplate
	EP2X534	SPRING-CRT Ground
	EP4X499	WINDOW-Channel Readout

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

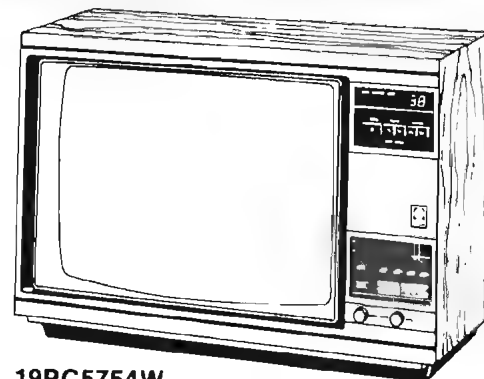
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	MP1A-112
PICTURE TUBE:	★ A48ACE26X
UHF/VHF TUNER:	★ EP93X539
BATTERY:	EP58X3
POWER SUPPLY/RADIO/CLOCK/KEYBOARD:	EP93X549
RADIO CIRCUIT BOARD:	EP93X545
RELAY CIRCUIT BOARD:	EP93X546
REMOTE CONTROL RECEIVER MODULE:	EP93X480
REMOTE CONTROL TRANSMITTER:	EP62X198
SPEAKER: 32 ohm, 4"	EP95X14
MP1A-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9206-84



19PC5754W

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-Detent, 10K ohm, 20%
R4260	EP49X494	PICTURE-Detent, 10K ohm, 20%
R4300	EP49X352	TINT-10K , 20%
R4301	EP49X352	COLOR-10K ohm, 20%
KSW01	EP39X207	SWITCH-Radio/TV Select, Push & Lock
KSW02	EP39X207	SWITCH-On/Off Clock Alarm, Push & Lock
KSW03	EP39X206	SWITCH-Clock Alarm Set, Push
KSW04	EP39X206	SWITCH-Clock Fast, Push
KSW05	EP39X206	SWITCH-Clock Slow, Push
KSW06	EP39X206	SWITCH-Clock Time Set, Push
S1	EP39X212	SWITCH-AM/FM, Slide Type
S4010	EP39X134	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X188	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP47X64	BUTTON-Radio/TV Select, Radio On/Off
	EP47X65	BUTTON-Alarm Set, Time Set, Fast & Slow
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel
	EP43X450	RADIO-Tuning
	EP43X449	RADIO-Vol

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down
	EP37X72	ANTENNA TERMINAL BOARD-Complete
	EP2X582	BRACKET-VHF Antenna Mounting, plastic

(Cont.)

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EP98X508	CABINET BACK-Hardboard
EP2X250	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP92X133	BRACKET-Keyboard Mounting, Plastic
	EP99X507	CABINET FRONT-Cherry Woodgrain, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP41X147	CLOCK TIMER READOUT DISPLAY
	EP4X495	DIAL SCALE-AM/FM Radio
	EP89X570	ESCUTCHEON-Upper Controls, Speaker & Radio, Plastic
	EP89X571	GRILLE CLOTH-Speaker
	EP4X292	OVERLAY-Secondary Controls, Inlay
	EP4X420	OVERLAY-Nameplate
	EP2X534	SPRING-CRT Ground
	EP4X499	WINDOW-Channel Readout, Black, Plastic

IMPORTANT SAFETY NOTICE



SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	MP1-130
PICTURE TUBE:	★ A48ACE40X
J-HF/VHF TUNER:	★ EP93X502
LIGHT DEPENDENT RESISTOR BOARD:	EP41X146
RELAY CIRCUIT BOARD:	EP93X544
REMOTE CONTROL RECEIVER MODULE:	EP93X480
REMOTE CONTROL TRANSMITTER:	EP62X197
VIR MODULE:	EP93X462
SPEAKER: 32 ohm, 4"	EP95X14
MP1-130 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9202-84

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
S4002	EP39X53	SWITCH-VIR, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

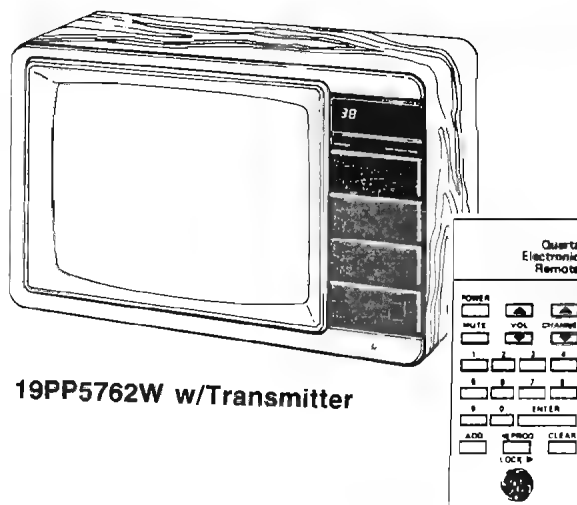
REF. NO.	PART NO.	DESCRIPTION
	EP62X174	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down
	EP37X68	ANTENNA TERMINAL BOARD-Complete
	EP2X582	BRACKET-VHF Antenna Mounting, Plastic



19PP5762W w/Transmitter

EP98X507	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP2X542	BRACKET-VIR Board Support, Plastic
	EP(2X115	BRACKET-Keyboard Mounting, Plastic
	EP99X523	CABINET FRONT-Cherry Woodgrain, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP4X419	DOOR-Keyboard Access
	EP89X557	ESCUTCHEON-Upper Controls, Black, Plastic
	EP89X489	GRILLE CLOTH-Speaker
	EP2X157	LIGHT PIPE-Light Sensor, Plastic
	EP4X345	OVERLAY-Secondary Controls Inlay, Plastic
	EP4X420	OVERLAY-Nameplate
	EP41X14	PILOT LIGHT-VIR, Red
	EP2X534	SPRING-CRT Ground
	EP4X484	WINDOW-Channel Readout, Plastic

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IMPORTANT SAFETY NOTICE

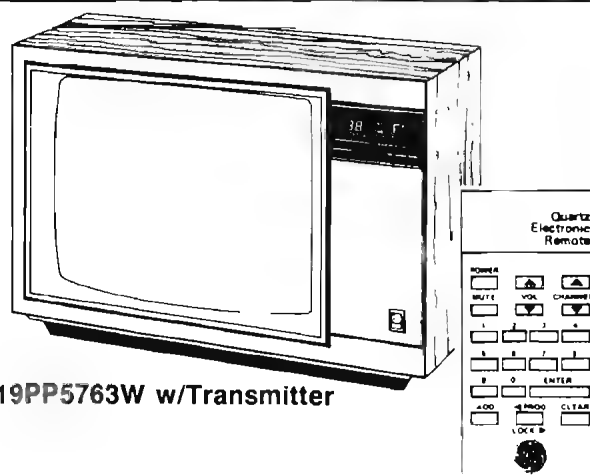
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	MP1-130
PICTURE TUBE:	★ A48ACE40X
UHF/VHF TUNER:	★ EP93X502
LIGHT DEPENDENT RESISTOR BOARD:	EP41X146
REMOTE CONTROL RECEIVER MODULE:	EP93X480
REMOTE CONTROL TRANSMITTER:	EP62X197
VIR MODULE:	EP93X462
SPEAKER 32 Ohm, 4"	EP95X14
MP1-130 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9202-84



19PP5763W w/Transmitter

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%
R4260	EP49X494	PICTURE-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
SW4005	EP39X53	SWITCH-VIR, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X174	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down

EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X538	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP92X115	BRACKET-Keyboard Mounting, Plastic
	EP2X542	BRACKET-VIR Board Support, Plastic
	EP99X496	CABINET FRONT-Cherry Woodgrain, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP4X419	DOOR-Keyboards Access, Black, Lexan
	EP89X557	ESCUTCHEON-Upper Control, Black, Plastic
	EP89X581	GRILLE-Speaker
	EP2X157	LIGHT PIPE-Light Sensor, Plastic
	EP4X345	OVERLAY-Secondary Control, Vinyl
	EP4X420	OVERLAY-Nameplate
	EP41X14	PILOT LIGHT-VIR, Red
	EP2X534	SPRING-CRT Ground
	EP4X484	WINDOW-Channel Readout, Black, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-E
TUNING SYSTEM:	Direct
PICTURE TUBE:	★ A63ABZ26X
VHF TUNER:	★ EP86X88
UHF TUNER:	★ EP85X76
SPEAKER: 8 ohm, 4"	EP95X14
USER'S MANUAL:	29-9212-84

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★ R4194	EP49X477	ON/OFF, VOL.-50K ohm, 20%
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

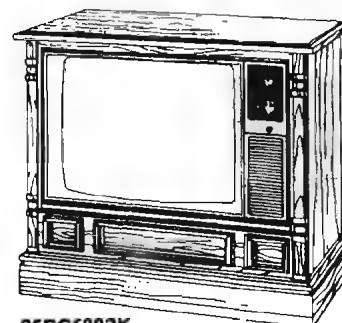
KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X338	ON/OFF, VOL.-Black, W/Retainer
	EP43X434	VHF SELECTOR-Black, W/Retainer
	EP43X437	VHF FINE TUNE-Black, W/Retainer
	EP43X454	VHF INDICATOR-Readout, Black, W/Retainer
	EP43X435	UHF SELECTOR-Black, W/Retainer
	EP43X436	UHF FINE TUNE-Black, W/Retainer
	EP43X439	UHF INDICATOR-Readout, Black, W/Retainer

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP37X59	ANTENNA TERMINAL BOARD- Complete
	EP98X548	CABINET BACK-Hardboard (25PC5802K)
	EP98X549	CABINET BACK-Hardboard (25PC5803K)
	EP98X550	CABINET BACK-Hardboard (25PC5806M)
	EP98X551	CABINET BACK-Hardboard (25PC5808P)
	EP2X540	CLEAT-Power Cord Storage

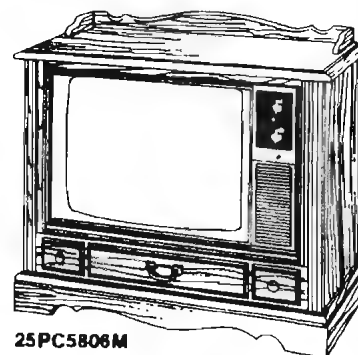
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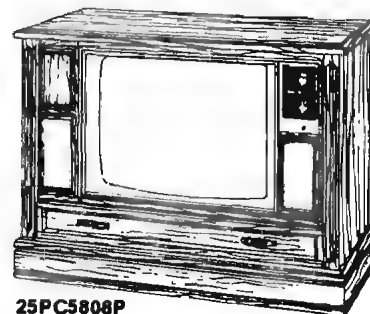
25PC5802K



25PC5803K



25PC5806M



25PC5808P

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

S3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP2X553	BRACKET-CRT Corner Mounting, Metal
	EP99X423	CABINET FRONT-Dark Brown, Plastic
	EP91X80	DOOR-Secondary Controls & Speaker, Plastic (25PC5802K/25PC5803K/25PC580 6M)
	EP91X133	DOOR-Secondary Controls & Speaker, W/Grille Cloth, Plastic (25PC5808P)
	EP1X33	DOOR-Rivet For Hinge
	EP2X376	DOOR CATCH
	EP89X554	DOOR HINGE
	EP89X468	ESCUTCHEON-UHF/VHF, Black, Plastic
	EP4X354	LENS-UHF & VHF Readout, Plastic
	EP4X376	OVERLAY-Secondary Controls, Plastic
	EP41X128	PILOT LIGHT-UHF/VHF Indicator
	EP3X56	SPRING-CRT Ground (2 Used)

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP68X7	CASTER-W/Socket
	EP4X85	KNOB-Decorative (Order 2) (25PC5806M)
	EP4X53	PULL-Decorative (25PC5806M)
	EP4X181	PULL-Decorative (Order 2) (25PC5808P)

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-E
TUNING SYSTEM:	KMPS1-112
PICTURE TUBE:	★ A63ABZ26X
UHF/VHF TUNER:	★ EP93X539
REMOTE POWER RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
KMPS1-112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9213-84

CONTROLS

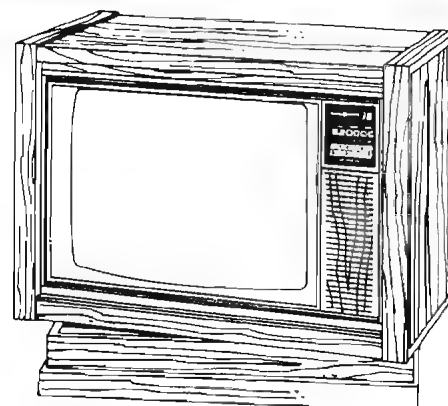
REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

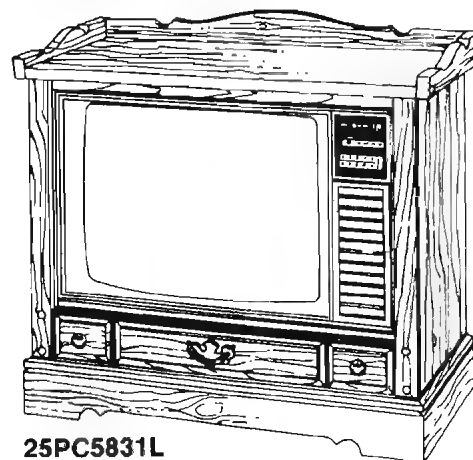
REF. NO.	PART NO.	DESCRIPTION
	EP62X191	ON/OFF, VOL., & CHANNEL SELECT

CABINET BACK PARTS

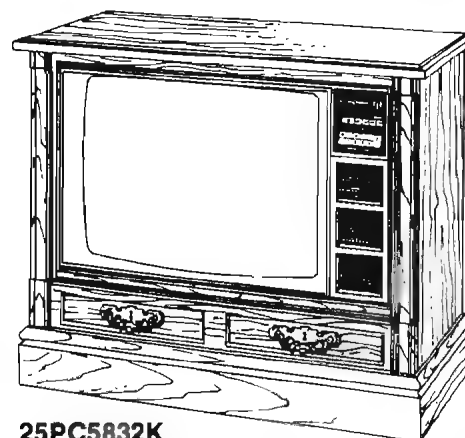
REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP37X68	ANTENNA TERMINAL BOARD- Complete
	EP98X547	CABINET BACK-Hardboard (25PC5830K)
	EP98X545	CABINET BACK-Hardboard (25PC5831L)
	EP98X546	CABINET BACK-Hardboard (25PC5832K)
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminals
★	EP66X19	CORD-AC Power, Polarized
	EP4X169	COVER-Service Information, Black, Plastic
	EP91X74	TUBE CAP-CRT Cover, Black Plastic



25PC5830K



25PC5831L



25PC5832K

(Cont.)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

Product safety should be considered when working on this receiver. The receiver is a Class I product and should be treated as such. The shaded areas of the schematic diagram designate components which are of special significance. It is particularly recommended that such components be replaced only with parts which have the same safety characteristics as the parts in the parts list and the shaded areas on the schematic diagram. Use of substituted replacement parts which do not have the same safety characteristics as those recommended in factory service information may create Shock, Fire or other hazards, or excessive temperature.

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP2X553	BRACKET-CRT Corner Mounting, Metal
	EP92X127	BRACKET-KeyBoard Mounting, Plastic
	EP99X52	CABINET FRONT-Dark Brown, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP91X129	DOOR-Secondary Controls & Speaker Cover, Plastic (25PC5830K)
	EP91X130	DOOR-Secondary Controls & Speaker Cover, Plastic (25PC5831L)
	EP91X131	DOOR-Secondary Controls & Speaker Cover, Plastic (25PC5832K)
	EP4X468	DOOR BUMPER
	EP2X626	DOOR HINGE
	EP4X515	ESCUTCHEON-Primary Controls, Black, Plastic
	EP4X514	OVERLAY-Secondary Controls, Black, Plastic
	EP1X33	RIVET-For Hinge, Plastic
	EP3X56	SPRING-CRT Ground

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP68X7	CASTER-W/Socket
	EP4X182	KNOB-Decorative (Order 2) (25PC5831L)
	EP4X193	PULL-Decorative (25PC5831L)
	EP4X188	PULL-Decorative (Order 2) (25PC5832K)

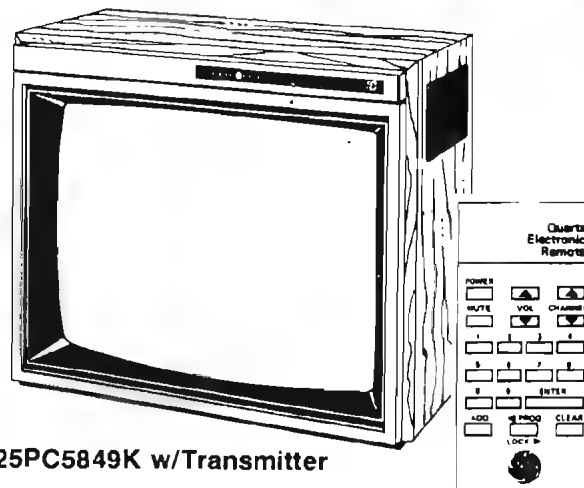
IMPORTANT SAFETY NOTICE

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-E
TUNING SYSTEM:	MP1-112 (E01)
TUNING SYSTEM:	MP1A-112 (E02)
PICTURE TUBE:	★ A63ABZ26X
UHF/VHF TUNER:	★ EP93X539
REMOTE CONTROL RECEIVER MODULE:	EP93X482
REMOTE CONTROL TRANSMITTER:	EP62X165
TOP TUNING CIRCUIT BOARD:	EP93X552
SPEAKER: 16 ohm, 4" (2 Used)	EP95X25
MP1-112 TUNER CONTROL BOARD:	EP93X531 (E01)
MP1A-112 TUNER CONTROL BOARD:	EP93X538 (E02)
USER'S MANUAL:	29-9216-84



25PC5849K w/Transmitter

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X499	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X499	PICTURE-10K ohm, 20%, Detent
R4300	EP49X491	TINT-10K ohm, 20%
R4301	EP49X491	COLOR-10K ohm, 20%
SW4001	EP39X206	SWITCH-On/Off, Push
SW4002	EP93X206	SWITCH-Vol. Up, Push
SW4003	EP39X206	SWITCH-Vol. Down, Push
SW4004	EP39X206	SWITCH-Channel Up, Push
SW4005	EP39X206	SWITCH-Channel Down, Push
SW4012	EP39X207	SWITCH-Color Monitor
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP47X166	COLOR, TINT, BRIGHTNESS, & PICTURE
	EP47X59	ON/OFF, VOL. UP & DOWN
	EP47X61	COLOR MONITOR

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP83X13	ANTENNA-UHF Bowtie Type
	EP83X17	ANTENNA-VHF, Fold-Down
	EP37X68	ANTENNA TERMINAL BOARD-Complete

EP2X616	BRACKET-VHF Antenna Mounting, Plastic
EP98X535	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP2X594	BRACKET-CRT Corner Mounting, Metal
	EP99X491	CABINET FRONT
	EP97X114	CABINET WRAP-Wood, W/Vinyl Woodgrain
	EP41X142	CHANNEL NUMBER READOUT DISPLAY-Green
	EP3X58	CLIP-Speaker Mounting
	EP91X123	DOOR-Top Tuning, Bronze, Plastic
	EP2X619	DOOR ARM ASSEMBLY
	EP2X596	DOOR CATCH
	EP2X593	DOOR HINGE PINS
	EP2X607	DOOR LATCH
	EP4X474	DOOR LOCK
	EP4X475	DOOR PIN
	EP89X550	GRILLE-Speaker
	EP54X253	OVERLAY-Top Tuning Black, Lexan
	EP54X250	OVERLAY-Secondary Controls, Black, Lexan
	EP3X56	SPRING-CRT Ground
	EP3X56	SWITCH PAD-Foam Cushion
	EP4X481	WINDOW-Sensor, Snap-In, Lexan

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-E
TUNING SYSTEM:	MP1A-112
PICTURE TUBE:	★ A63ABZ26X
UHF/VHF TUNER:	★ EP93X539
RELAY CIRCUIT BOARD:	EP93X544
REMOTE CONTROL RECEIVER MODULE:	EP93X482
REMOTE CONTROL TRANSMITTER:	EP62X197
SPEAKER: 32 ohm, 4"	EP95X14
MP1A-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9216-84

CONTROLS

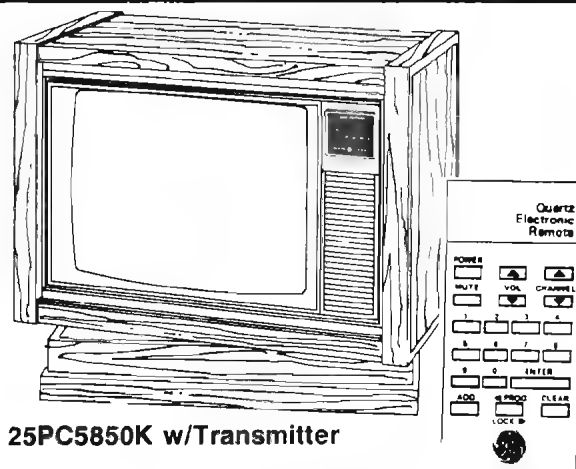
REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

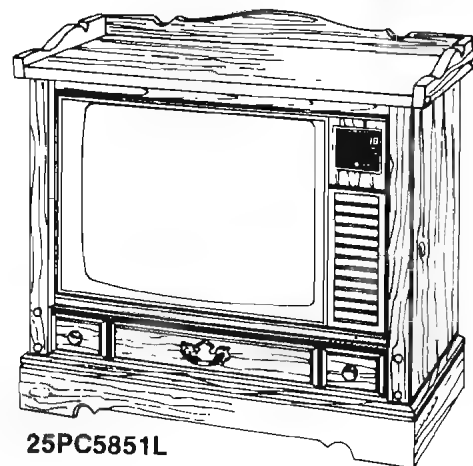
REF. NO.	PART NO.	DESCRIPTION
	EP62X189	ON/OFF, VOL., & CHANNEL SELECT

CABINET BACK PARTS

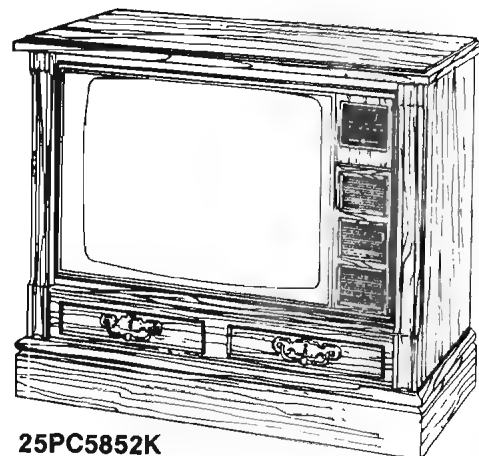
REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP37X68	ANTENNA TERMINAL BOARD-Complete
	EP98X547	CABINET BACK-Hardboard (25PC5850K)
	EP98X545	CABINET BACK-Hardboard (25PC5851L)
	EP98X546	CABINET BACK-Hardboard (25PC5852K)
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	★ EP66X19	CORD-AC Power, Polarized
	EP4X169	COVER-Service Information, Black, Plastic
	EP91X74	TUBE CAP-CRT Cover, Black Plastic



25PC5850K w/Transmitter



25PC5851L



25PC5852K

(Cont.)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP2X553	BRACKET-CRT Corner Mounting, Metal
	EP92X136	BRACKET-KeyBoard Mounting, Plastic
	EP99X520	CABINET FRONT-Dark Brown, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP91X129	DOOR-Controls & Speaker Cover (25PC5850K)
	EP91X130	DOOR-Controls & Speaker Cover (25PC5851L)
	EP91X131	DOOR-Controls & Speaker Cover (25PC5852K)
	EP4X468	DOOR BUMPER
	EP78X66	DOOR HANDLE-(25PC5850K)
	EP2X626	DOOR HINGE
	EP89X583	ESCUTCHEON-Upper Controls, Woodgrain, Plastic
	EP4X514	OVERLAY-Secondary Controls, Black, Plastic
	EP1X33	RIVET-Plastic
	EP3X56	SPRING-CRT Ground

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP68X7	CASTER-W/Socket
	EP4X182	KNOB-Decorative (Order 2) (25PC5851L)
	EP4X193	PULL-Decorative (25PC5851L)
	EP4X188	PULL-Decorative (Order 2) (25PC5852K)

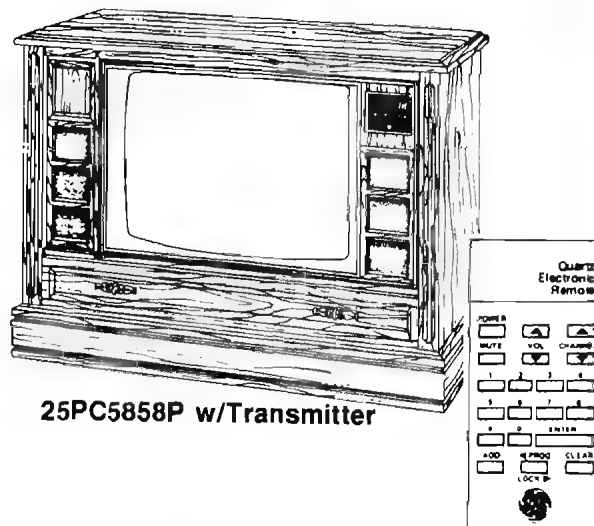
IMPORTANT SAFETY NOTICE

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-E
TUNING SYSTEM:	MP1-112 (E01)
TUNING SYSTEM:	MP1A-112 (E02)
PICTURE TUBE:	* A63ABZ26X
UHF/VHF TUNER:	* EP93X539
REMOTE CONTROL RECEIVER MODULE:	EP93X482
REMOTE CONTROL TRANSMITTER:	EP62X165
TOP TUNING CIRCUIT BOARD:	EP93X552
SPEAKER: 16 ohm, 4" (2 Used)	EP95X25
MP1-112 TUNER CONTROL BOARD:	EP93X531 (E01)
MP1A-112 TUNER CONTROL BOARD:	EP93X538 (E02)
USER'S MANUAL:	29-9216-84



25PC5858P w/Transmitter

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

REF. NO.	PART NO.	DESCRIPTION
	EP62X189	ON/OFF, VOL., & CHANNEL SELECT

CABINET BACK PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
	EP37X68	ANTENNA TERMINAL BOARD-Complete
	EP98X551	CABINET BACK-Hardboard
	EP2X540	CLEAT-Power Cord Storage
	ES3X29	CLIP-Antenna Terminal
	* EP66X19	CORD-AC Power, Polarized
	EP4X169	COVER-Service Information, Black, Plastic
	EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

REF. NO.	PART NO.	DESCRIPTION
	EP2X553	BRACKET-CRT Corner Mounting, Metal
	EP92X136	BRACKET-KeyBoard Mounting, Plastic
	EP99X520	CABINET FRONT-Dark Brown, Plastic
	EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
	EP91X134	DOOR-Controls & Speaker Cover
	EP4X468	DOOR BUMPER
	EP2X626	DOOR HINGE
	EP89X583	ESCUTCHEON-Upper Controls, Woodgrain, Plastic
	EP4X514	OVERLAY-Secondary Controls, Black, Plastic
	EP1X46	RETAINER-Speaker Fastener (2 Used)
	EP1X33	RIVET-Plastic
	EP3X56	SPRING-CRT Ground

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP68X7	CASTER-W/Socket
	EP4X189	PULL-Decorative (Order 2)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

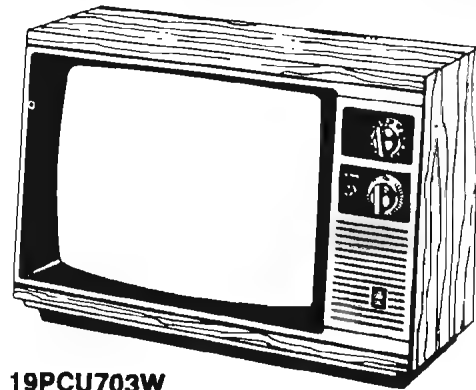
Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F/H/J
TUNING SYSTEM:	Direct
PICTURE TUBE:	★ A48ACE26X
VHF TUNER:	★ EP86X88
UHF TUNER:	★ EP85X76
SPEAKER: 32 ohm, 4"	EP95X14
USER'S MANUAL:	29-9201-84



19PCU703W

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★ R4194	EP49X471	ON/OFF, VOL.-50K ohm, 30%
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
SW5008	EP39X146	SWITCH-Cable Select,

KNOBS

PART NO.	DESCRIPTION
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel
EP43X338	ON/OFF, VOL.-Black, W/Retainer
EP43X381	VHF SELECTOR-Black, W/Retainer
EP43X388	VHF FINE TUNE-Black, W/Retainer
EP43X359	UHF SELECTOR-Black, W/Retainer
EP43X361	UHF FINE TUNE-Black, W/Retainer
EP43X442	UHF INDICATOR-Black, W/Re- tainer

EP98X508	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)
EP1X33	RIVET-Plastic

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X53	ANTENNA TERMINAL BOARD- Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X509	CABINET FRONT-Cherry Woodgrain, Plastic (19PC5703W)
EP89X572	ESCUTCHEON-UHF/VHF & Speaker, Black, Plastic
EP4X350	OVERLAY-VHF Direct Readout, Black, Plastic
EP4X291	OVERLAY-Secondary Controls Inlay
EP4X420	OVERLAY-Nameplate
EP2X534	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

Caution should be considered when component replacement is required. Only use components which are designated by a factory symbol. Components which are designated by a factory symbol do not have the same safety characteristics as components which are designated by a factory symbol.

GENERAL ELECTRIC

CONSUMER ELECTRONICS BUSINESS OPERATIONS
PORTSMOUTH, VA 23705

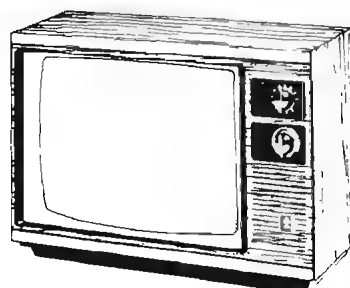
PC CHASSIS
19PCU704WF01/H01/J01
19PFU704J01

SERVICE INFORMATION

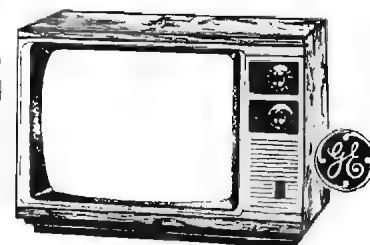
PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F/H/J
TUNING SYSTEM:	Direct
PICTURE TUBE:	★ A48ACE26X
VHF TUNER:	★ EP86X88
UHF TUNER:	★ EP85X76
SPEAKER: 32 ohm, 4"	EP95X14
USER'S MANUAL:	29-9201-84



19PCU704W



19PFU704

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★ R4194	EP49X471	ON/OFF, VOL.-50K ohm, 30%
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent (F—/H—)
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent (J— & Later)
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent (F—/H—)
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent (J— & Later)
R4300	EP49X352	TINT-10K ohm, 20% (F—/H—)
R4300	EP49X506	TINT-10K ohm, 20% (J— & Later)
R4301	EP49X352	COLOR-10K ohm, 20% (F—/H—)
R4301	EP49X506	COLOR-10K ohm, 20% (J— & Later)
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select,

KNOBS

PART NO.	DESCRIPTION
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE- Thumbwheel (F—/H—)
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE- Thumbwheel (J— & Later)
EP43X338	ON/OFF, VOL.-Black, W/Retainer
EP43X381	VHF SELECTOR-Black, W/Retainer
EP43X388	VHF FINE TUNE-Black, W/Retainer
EP43X359	UHF SELECTOR-Black, W/Retainer
EP43X361	UHF FINE TUNE-Black, W/Retainer
EP43X442	UHF INDICATOR-Black, W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X53	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X508	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X510	CABINET FRONT-Cherry Woodgrain, Plastic
EP89X450	ESCUTCHEON-UHF/VHF & Speaker, Cherry Woodgrain, Plastic
EP4X350	OVERLAY-VHF Direct Readout, Black, Plastic
EP4X292	OVERLAY-Secondary Controls Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

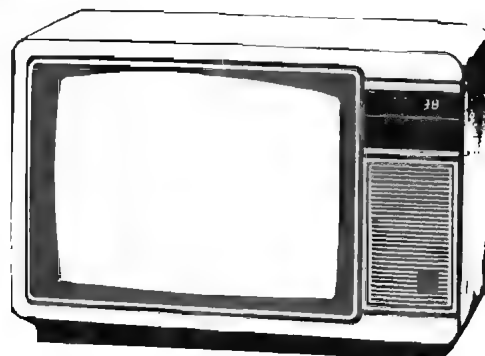
Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F/H/J
TUNING SYSTEM:	KMPS3-112
PICTURE TUBE:	★ A48ACE26X
UHF/VHF TUNER:	★ EP93X539
REMOTE POWER RELAY	
CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
KMPS3-112 TUNER CONTROL BOARD:	EP93X530



19PCL737K

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
4260	EP49X494	PICTURE-10K ohm, 20%, Detent
4300	EP49X352	TINT-10K ohm, 20%
4301	EP49X352	COLOR-10K ohm, 20%
5198	EP49X475	VOL. LIMITER-50K ohm, 20%
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X203	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X67	ANTENNA TERMINAL BOARD-Complete
EP98X477	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X126	BRACKET-KeyBoard Mounting, Plastic
EP99X531	CABINET FRONT-Oak Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X523	ESCUTCHEON-Upper Controls, Plastic
EP4X448	FIDDLE FREE COVER-Thumbwheel
EP4X522	FIDDLE FREE COVER-KeyBoard
EP89X589	GRILLE-Speaker, Oak Woodgrain, Plastic
EP4X291	OVERLAY-Secondary Controls Inlay
EP4X420	OVERLAY-Nameplate
EP2X534	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The safety features of the receiver are designed to protect the user from electrical shock. The schematic diagram designates components in which safety can be of special importance. It is particularly recommended that replacement parts be obtained from the factory for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards or excessive X-Radiation.

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	KMPS2-112
PICTURE TUBE:	★ A48ACE26X
UHF/VHF TUNER:	★ EP93X539
RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
KMPS2-112 TUNER CONTROL BOARD:	EP93X530

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
R5198	EP49X475	VOL. LIMITER-50K ohm, 20%
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

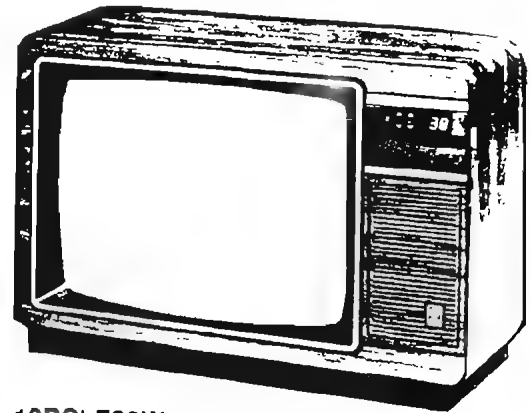
PART NO.	DESCRIPTION
EP62X203	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X67	ANTENNA TERMINAL BOARD-Complete
EP98X477	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic



19PCL738W

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X126	BRACKET-KeyBoard Mounting, Plastic
EP99X525	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP4X523	ESCUTCHEON-Upper Controls, W/Readout Window
EP4X448	FIDDLE FREE COVER-Thumbwheel
EP4X522	FIDDLE FREE COVER-KeyBoard
EP89X436	GRILLE-Speaker, Black, Plastic
EP4X291	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP2X534	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

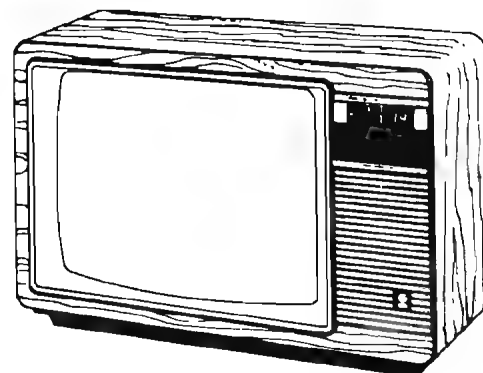
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	KMPS2-112
PICTURE TUBE:	★ A48ACE26X
UHF/VHF TUNER:	★ EP93X539
RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
KMPS2-112 TUNER CONTROL BOARD:	EP93X530



19PCC738W

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
R5198	EP49X475	VOL. LIMITER-50K ohm, 20%
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X190	ON/OFF, VOL., & CHANNEL SELECT

CABINET FRONT PARTS

KNOBS

PART NO.	DESCRIPTION
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X67	ANTENNA TERMINAL BOARD-Complete
EP98X477	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

PART NO.	DESCRIPTION
EP92X126	BRACKET-Keyboard Mounting, Plastic
EP99X525	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X586	ESCUTCHEON-Upper Controls, W/Readout Window
EP4X448	FIDDLE FREE COVER-Thumbwheel
EP4X522	FIDDLE FREE COVER-Keyboards
EP89X436	GRILLE-Speaker, Black, Plastic
EP4X291	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP2X534	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

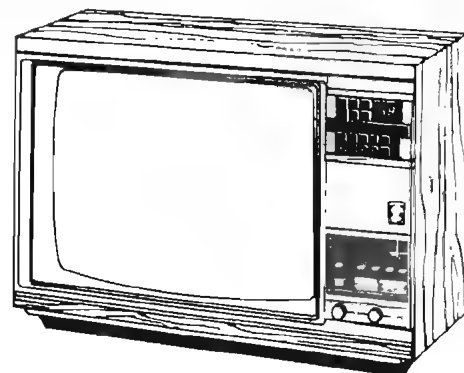
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F
TUNING SYSTEM:	KMPS3-112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X539
BATTERY:	EP58X3
POWER SUPPLY/RADIO/CLOCK/KEYBOARD:	EP93X549
RADIO CIRCUIT BOARD: W/Vol Limiter	EP93X547
RELAY CIRCUIT BOARD:	EP93X548
SPEAKER: 32 ohm, 4"	EP95X14
KMPS3-112 TUNER CONTROL BOARD:	EP93X530



19PCC739W

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
R5198/ R5199	EP49X503	VOLUME LIMITER- T.V., 25K ohm, 30% Radio, 100K ohm, 30%
KSW01	EP39X207	SWITCH-Radio/TV Select, Push & Lock
KSW02	EP39X207	SWITCH-On/Off Clock Alarm, Push & Lock
KSW03	EP39X206	SWITCH-Clock Alarm Set, Push
KSW04	EP39X206	SWITCH-Clock Fast, Push
KSW05	EP39X206	SWITCH-Clock Slow, Push
KSW06	EP39X206	SWITCH-Clock Time Set, Push
S1	EP39X212	SWITCH-AM/FM, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X190	ON/OFF, VOL., & CHANNEL SELECT

KNOBBS

PART NO.	DESCRIPTION
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel
EP47X64	TV/RADIO, & ALARM OFF/ON
EP43X449	RADIO-Volume, Black, W/Retainer
EP43X450	RADIO-Tuning, Black
EP43X65	SET/FAST/SLOW/TIME SET

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X72	ANTENNA TERMINAL BOARD-Complete
EP98X543	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

(Cont.)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X122	BRACKET-Radio Support, Plastic
EP92X134	BRACKET-Keyboard Mounting, Plastic
EP99X512	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X147	CLOCK TIMER READOUT DISPLAY
EP4X495	DIAL-AM/FM Radio
EP89X585	ESCUTCHEON-Upper Controls, Speaker, & Radio Black, Plastic
EP4X448	FIDDLE FREE COVER- Thumbwheel, Black, Plastic
EP4X498	FIDDLE FREE COVER-Keyboards, Black, Lexan
EP2X612	GEAR-Radio Tuning
EP4X291	OVERLAY-TV, Secondary Controls Inlay
EP4X420	OVERLAY-Nameplate
EP2X613	POINTER-Radio Dial
EP2X534	SPRING-CRT Ground
EP41X140	TV CHANNEL NUMBER READOUT DISPLAY-Green

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

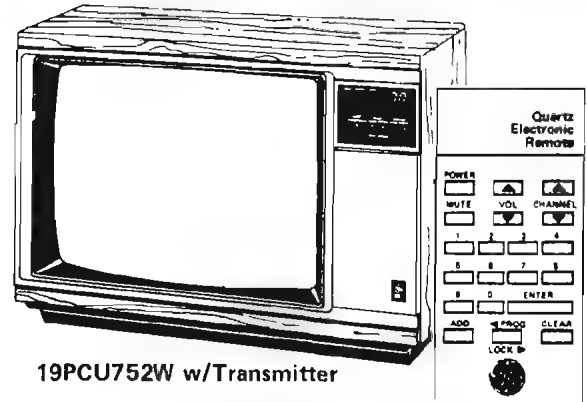


SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F/H/J
TUNING SYSTEM:	MP2-112
PICTURE TUBE:	★ A48ACE26X
UHF/VHF TUNER:	★ EP93X539
REMOTE CONTROL RECEIVER MODULE:	EP93X480
REMOTE CONTROL TRANSMITTER:	EP62X197
REMOTE POWER RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
MP2-112 TUNER CONTROL BOARD:	EP93X531
USER'S MANUAL:	29-9205-84



19PCU752W w/Transmitter

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%
R4260	EP49X494	PICTURE-10K ohm, 20%
R4300	EP49X352	TINT-10K ohm, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X188	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete

EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X508	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X638	BRACKET-Speaker Mounting, Plastic
EP92X133	BRACKET-Keyboards Mounting, Plastic
EP99X518	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X579	ESCUTCHEON-Upper Control, Black, Plastic
EP89X578	GRILLE CLOTH-Speaker
EP4X292	OVERLAY-Secondary Controls Inlay
EP4X420	OVERLAY-Nameplate
EP2X534	SPRING-CRT Ground
EP4X499	WINDOW-Channel Readout

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

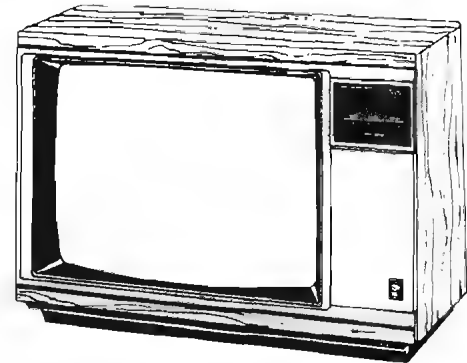
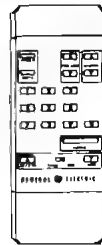
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	MP2-112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X575
REMOTE CONTROL RECEIVER MODULE:	EP93X617
REMOTE CONTROL TRANSMITTER:	EP62X208
REMOTE RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
MP2-112 TUNER CONTROL BOARD:	EP93X531



19PF5752/19PFU752

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
★S4000	EP39X221	SW TCH-ON/OFF
SW4010	EP39X53	SWITCH-Co or Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X221	VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X569	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X638	BRACKET-Speaker Mounting, Plastic
EP92X133	BRACKET-KeyBoard Mounting, Plastic
EP99X518	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X579	ESCUTCHEON-Upper Controls, Plastic
EP89X578	GRILLE-Speaker
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground
EP4X556	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

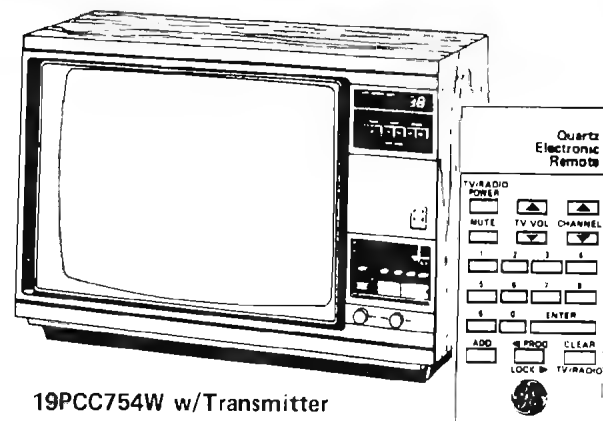
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F/H/J
TUNING SYSTEM:	MP1A-112
PICTURE TUBE:	★ A48ACE26X
UHF/VHF TUNER:	★ EP93X539
BATTERY:	EP58X3
POWER SUPPLY/	
RADIO/CLOCK/KEYBOARD:	EP93X549
RADIO CIRCUIT BOARD:	EP93X547 - o/c
RELAY CIRCUIT BOARD:	EP93X546 - o/c
REMOTE CONTROL RECEIVER	
MODULE:	EP93X480
REMOTE CONTROL	
TRANSMITTER:	EP62X198
SPEAKER: 32 ohm, 4"	EP95X14
MP1A-112 TUNER CONTROL	
BOARD:	EP93X541
USER'S MANUAL:	29-9206-84



19PCC754W w/Transmitter

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-Detent, 10K ohm, 20%
R4260	EP49X494	PICTURE-Detent, 10K ohm, 20%
R4300	EP49X352	TINT-10K, 20%
R4301	EP49X352	COLOR-10K ohm, 20%
R5198/	EP49X503	Volume Limiter,
R5199		T.V., 25K ohm, 30%
		Radio, 100K ohm, 30%
KSW01	EP39X207	SWITCH-Radio/TV Select, Push & Lock
KSW02	EP39X207	SWITCH-On/Off Clock Alarm, Push & Lock
KSW03	EP39X206	SWITCH-Clock Alarm Set, Push
KSW04	EP39X206	SWITCH-Clock Fast, Push
KSW05	EP39X206	SWITCH-Clock Slow, Push
KSW06	EP39X206	SWITCH-Clock Time Set, Push
S1	EP39X212	SWITCH-AM/FM, Slide Type
S4010	EP39X134	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X188	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP47X64	BUTTON-Radio/TV Select, Radio On/Off
EP47X65	BUTTON-Alarm Set, Time Set, Fast & Slow
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel
EP43X450	RADIO-Tuning
EP43X449	RADIO-Vol.

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X72	ANTENNA TERMINAL BOARD-Complete
EP98X543	CABINET BACK-Black, Plastic
EP2X250	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener
EP1X33	RIVET-Plastic

(Cont.)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X512	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP41X147	CLOCK TIMER READOUT DISPLAY
EP4X495	DIAL SCALE-AM/FM Radio
EP89X570	ESCUTCHEON-Upper Controls, Speaker & Radio, Plastic
EP4X448	FIDDLE FREE COVER- Thumbwheel
EP89X571	GRILLE CLOTH-Speaker
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP2X534	SPRING-CRT Ground
EP4X499	WINDOW-Channel Readout, Black, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

GENERAL ELECTRIC

CONSUMER ELECTRONICS BUSINESS OPERATIONS
PORTSMOUTH, VA 23705

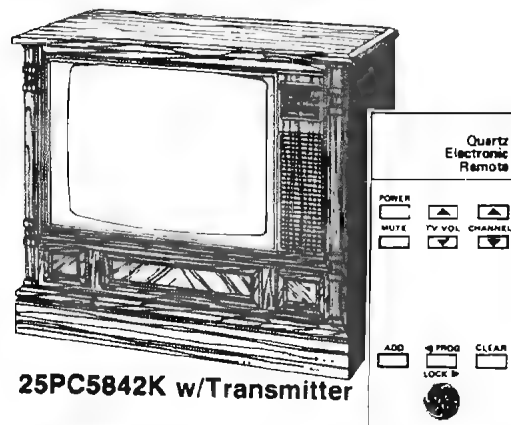
PC CHASSIS
25PC5842KE01
25PC5843KE01
25PC5846ME01

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

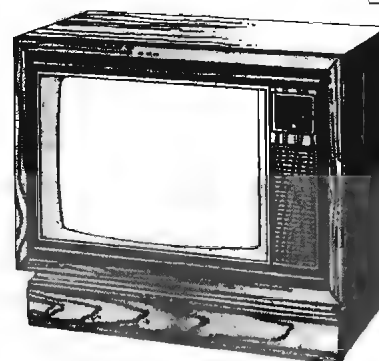
CHASSIS TYPE:	25" PC-E
TUNING SYSTEM:	LMP2-112
PICTURE TUBE:	A63ABZ26X
UHF/VHF TUNER:	EP93X539
RELAY CIRCUIT BOARD:	EP93X544
REMOTE CONTROL RECEIVER MODULE:	EP93X482
REMOTE CONTROL TRANSMITTER:	EP62X164
SPEAKER: 32 ohm, 4"	EP95X14
LMP2-112 TUNER CONTROL BOARD:	EP93X465
USER'S MANUAL:	29-9215-84



25PC5842K w/Transmitter

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	49X493	PICTURE-10K ohm, 20%, Detent
R4300	49X412	TINT-10K ohm, 20%
R4301	49X412	COLOR-10K ohm, 20%
S4010	39X53	SWITCH-Color Monitor, Slide Type
SW5008	39X146	SWITCH-Cable Select, Slide Type



25PC5843K

KEYBOARD

PART NO.	DESCRIPTION
EP62X189	ON/OFF, VOL., & CHANNEL SELECT



25PC5846M

(Cont.)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP98X548	CABINET BACK-Hardboard (25PC5842K)
EP98X549	CABINET BACK-Hardboard (25PM5843K)
EP98X550	CABINET BACK-Hardboard (25PC5846M)
EP2X540	CLEAT-Power Cord Storage
EP3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X74	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X553	BRACKET-CRT Corner Mounting, Metal
EP92X136	BRACKET-KeyBoard Mounting, Plastic
EP99X520	CABINET FRONT-Brown, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X129	DOOR-Secondary Controls, & Speaker, Plastic
EP4X468	DOOR BUMPER
EP78X66	DOOR HANDLE
EP2X626	DOOR HINGE
EP89X583	ESCUTCHEON-Upper Controls, Black, Plastic
EP4X514	OVERLAY-Secondary Controls, Plastic
EP1X33	RIVET-Plastic
EP3X56	SPRING-CRT Ground (2 Used)

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X85	KNOB-Decorative (Order 2) (25PC5846M)
EP4X53	PULL-Decorative (25PC5846M)

IMPORTANT SAFETY NOTICE

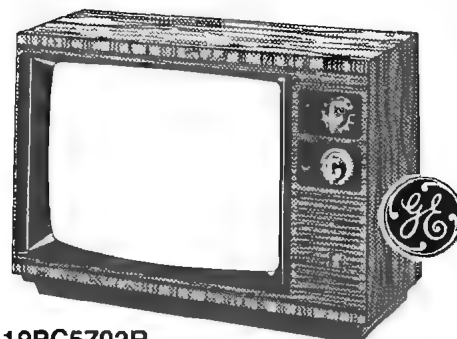


SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE: 19" PC-F/H/J
 TUNING SYSTEM: Direct
 PICTURE TUBE: ★A48ACE26X
 VHF TUNER: ★EP86X88
 UHF TUNER: ★EP85X76
 SPEAKER: 32 ohm, 4" EP95X14
 USER'S MANUAL: 29-9202-85



19PC5702R

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★R4194	EP49X471	ON/OFF, VOL.-50K ohm, 30%
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent (F/H)
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent (J)
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent (F/H)
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent (J)
R4300	EP49X352	TINT-10K ohm, 20% (F/H)
R4300	EP49X506	TINT-10K ohm, 20% (J)
R4301	EP49X352	COLOR-10K ohm, 20% (F/H)
R4301	EP49X506	COLOR-10K ohm, 20% (J)
S4010	EP39X53	SWITCH-Color Monitor, Slide Type

KNOBS

PART NO.	DESCRIPTION
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel (F/H)
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel (J)
EP43X338	ON/OFF, VOL.-Black, W/Retainer
EP43X381	VHF SELECTOR-Black, W/Retainer
EP43X388	VHF FINE TUNE-Black, W/Retainer
EP43X359	UHF SELECTOR-Black, W/Retainer
EP43X361	UHF FINE TUNE-Black, W/Retainer
EP43X442	UHF INDICATOR-Black, W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X53	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X569	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X522	CABINET FRONT-Rosewood Woodgrain, Plastic
EP89X582	ESCUTCHEON-UHF/VHF & Speaker, Rosewood, Plastic
EP2X664	HOLE PLUG-Cover, Non Used Switch, Black, Plastic
EP4X350	OVERLAY-UHF & VHF Direct Readout
EP4X561	OVERLAY-Secondary Controls Inlay, Black, Vinyl
EP4X420	OVERLAY-Nameplate
EP41X14	PILOT LIGHT-VIR, Red, Y4001
EP34X72	SOCKET-L.E.D.
EP3X56	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

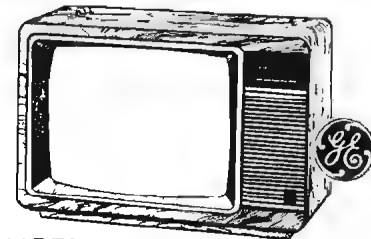
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	LMP1B-112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X575
REMOTE CONTROL RECEIVER MODULE:	EP93X617
REMOTE CONTROL TRANSMITTER:	EP62X209
SPEAKER: 32 ohm, 4"	EP95X14
LMP1B-112 TUNER CONTROL BOARD:	EP93X531
USER'S MANUAL:	29-9242-85



19PF3742
CABINET BACK PARTS



CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20% (J06)
R4220	EP49X494	BIRGHTNESS-10K ohm, 20%, De- tent (J07)
R4260	EP49X507	PICTURE-10K ohm, 20% (J06)
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent (J07)
R4300	EP49X506	TINT-10K ohm, 20% (J06)
R4300	EP49X352	TINT-10K ohm, 20% (J07)
R4301	EP49X506	COLOR-10K ohm, 20% (J06)
R4301	EP49X352	COLOR-10K ohm, 20% (J07)
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X174	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black (J06)
EP43X341	COLOE, TINT, BRIGHTNESS, & PICTURE-Black (J07)

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD- Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X481	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X106	BRACKET-Keybaord Mounting, Plastic
EP99X494	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X587	ESCUTCHEON-Upper Controls, Black, Lexan
EP89X480	GRILLE-Speaker, Cherry Woodgrain, Plastic
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground
EP4X549	WINDOW-Channel Readout, Plastic

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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F/H/J
TUNING SYSTEM:	Direct
PICTURE TUBE:	★ A48ACE26X
VHF TUNER:	★ EP86X88
UHF TUNER:	★ EP85X76
BILINGUAL DECODER CIRCUIT BOARD:	EP93X555 (F01 & H01)
BILINGUAL DECODER CIRCUIT BOARD:	EP93X637 (H02/J01/J02 & Later)
SPEAKER:	32 ohm, 4" EP95X14
USER'S MANUAL:	29-9247-84 (19PC5707W)
USER'S MANUAL:	29-9207-85 (19PC5707)



19PC5707W

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★ R4194	EP49X471	ON/OFF, VOL.-50K ohm, 30%
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, De- tent (F01/H01/H02)
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, De- tent (J01/J02 & Later)
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent (F01/H01/H02)
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent (J01/J02 & Later)
R4300	EP49X352	TINT-10K ohm, 20% (F01/H01/H02)
R4300	EP49X506	TINT-10K ohm, 20% (J01/J02 & Later)
R4301	EP49X352	COLOR-10K ohm, 20% (F01/H01/H02)
R4301	EP49X506	COLOR-10K ohm, 20% (J01/J02 & Later)
SW400	EP39X53	SWITCH-Bilingual Defeat, Slide Type
S4010	EP39X53	SWITCH-Color Monitor, Slide Type

KNOBS

REF. NO.	PART NO.	DESCRIPTION
	EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel (F01/H01/H02)
	EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel (J01/J02 & Later)
	EP43X338	ON/OFF, VOL.-Black, W/Retainer
	EP43X381	VHF SELECTOR-Black, W/Retainer
	EP43X388	VHF FINE TUNE-Black, W/Retainer
	EP43X359	UHF SELECTOR-Black, W/Retainer
	EP43X361	UHF FINE TUNE-Black, W/Retainer
	EP43X442	UHF INDICATOR-Black, W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X53	ANTENNA TERMINAL BOARD- Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X569	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X522	CABINET FRONT-Rosewood Woodgrain, Plastic
EP89X582	ESCUTCHEON-UHF/VHF & Speaker, Rosewood, Plastic
EP4X516	OVERLAY-UHF & VHF Direct Readout
EP4X517	OVERLAY-Secondary Controls, Black, Plastic
EP4X420	OVERLAY-Nameplate
EP41X41	PILOT LIGHT-Bilingual Indicator, Red
EP41X14	PILOT LIGHT-VIR, Red, Y4001
EP34X72	SOCKET-L.E.D.
EP3X56	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

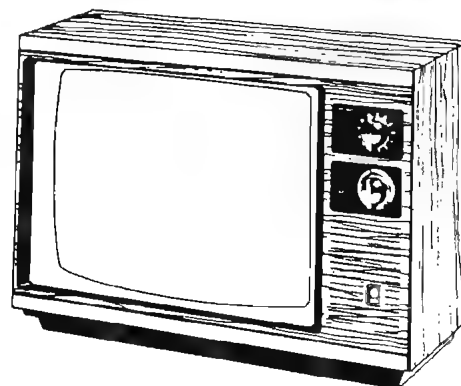
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	Direct
PICTURE TUBE:	★ A48ACE26X
VHF TUNER:	★ EP86X88
UHF TUNER:	★ EP85X76
SPEAKER: 32 ohm, 4"	EP95X14
USER'S MANUAL	29-9209-85



19CC6709

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★ R4194	EP49X471	ON/OFF, VOL.-50K ohm, 30%
R5198	EP49X475	VOL. LIMITER-50K ohm, 20%
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X56	ANTENNA TERMINAL BOARD-Complete
EP98X543	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black
EP43X363	FIDDLE FREE KNOB-Fine Tune
EP43X338	ON/OFF, VOL.-Black, W/Retainer
EP43X381	VHF SELECTOR-Black, W/Retainer
EP43X388	VHF FINE TUNE-Black, W/Retainer
EP43X359	UHF SELECTOR-Black, W/Retainer
EP43X361	UHF FINE TUNE-Black, W/Retainer
EP43X442	UHF INDICATOR-Black, W/Retainer

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X517	CABINET FRONT-Cherry Woodgrain, Plastic
ES3X23	CLIP-For Fiddle Free Escutcheon
EP89X450	ESCUTCHEON-UHF/VHF & Speaker Cherry Woodgrain, Plastic
EP4X448	FIDDLE FREE COVER-Thumbwheels
EP4X219	FIDDLE FREE ESCUTCHEON ASSEMBLY
EP4X358	OVERLAYS-UHF & VHF Readout, Black, Alum.
EP4X291	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

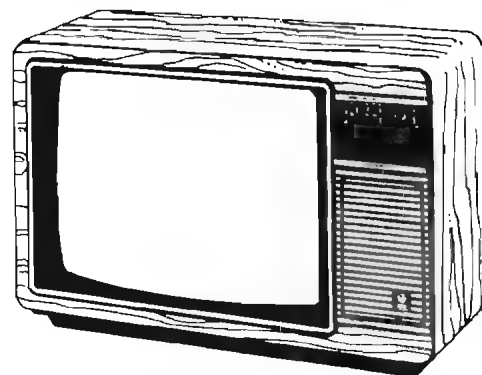
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	KMPS-112
PICTURE TUBE:	★A48ACE40X
UHF/VHF TUNER:	★EP93X575
REMOTE POWER RELAY BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
KMPS-112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9203-85



19CC6733

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
R5198	EP49X475	VOL. LIMITER-50K ohm, 20%
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X67	ANTENNA TERMINAL BOARD-Complete
EP98X477	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

KEYBOARD

PART NO.	DESCRIPTION
EP62X224	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black

PART NO.	DESCRIPTION
EP92X126	BRACKET-KeyBoard Mounting, Plastic
EP99X539	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X598	ESCUTCHEON ASSEMBLY-Upper Controls
EP4X448	FIDDLE FREE COVER-Thumbwheels
EP4X522	FIDDLE FREE COVER-KeyBoard
EP89X436	GRILLE-Speaker
EP4X291	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

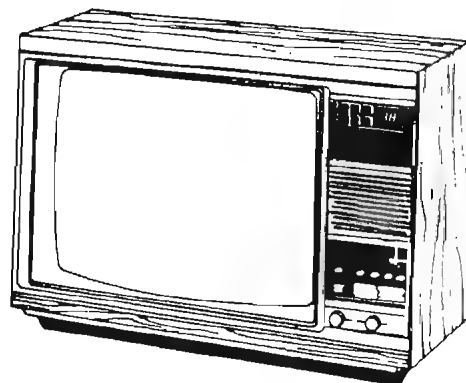
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	KMPS-112
PICTURE TUBE:	★ A48ACE40X
UHF/VHF TUNER:	★ EP93X575
RADIO CIRCUIT BOARD:	EP93X547
RADIO POWER SUPPLY/KEYBOARD:	EP93X549
RELAY CIRCUIT BOARD:	EP93X595
SPEAKER: 32 ohm, 4"	EP95X14
KMPS-112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9239-85



19CC6739

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
R5198/	EP49X498	TV VOL. LIMITER-25K ohm, 30%
R5199		RADIO VOL. LIMITER-100K ohm, 30%
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X224	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP47X64	BUTTON-Radio/TV Select, Radio On/Off
EP47X65	BUTTON-Alarm Set, Time Set, Fast & Slow
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black
EP43X461	RADIO-Vol., Black, W/Retainer
EP43X462	RADIO-Tuning, Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X72	BRACKET-VHF Antenna Mounting, Plastic
EP98X543	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X122	BRACKET-Radio Support, Plastic
EP92X134	BRACKET-KeyBoard Mounting, Plastic
EP99X512	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP41X147	CLOCK TIMER READOUT DISPLAY
EP89X574	ESCUTCHEON-Radio/TV, Black, Lexan
EP4X448	FIDDLE FREE COVER-Thumbwheel
EP4X498	FIDDLE FREE COVER-KeyBoard
EP4X291	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

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SERVICE INFORMATION

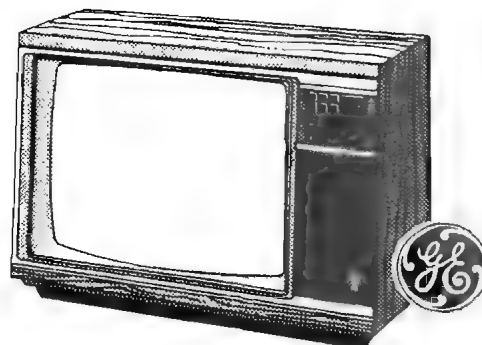
PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-F/H/J
TUNING SYSTEM:	KMPS-112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X539 (F01/H01)
UHF/VHF TUNER:	★EP93X575 (J01 & Later)
SPEAKER:	32 ohm, 4" EP95X14
KMPS-112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9203-84

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X494	BRIGHTNESS-10K ohm, 20%, Detent (F01/H01)
R4220	EP49X507	BIRGHTNESS-10K ohm, 20%, Detent (J01 & Later)
R4260	EP49X494	PICTURE-10K ohm, 20%, Detent (F01/H01)
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent (J01 & Later)
R4300	EP49X352	TINT-10K ohm, 20% (F01/H01)
R4300	EP49X506	TINT-10K ohm, 20% (J01 & Later)
R4301	EP49X352	COLOR-10K ohm, 20% (F01/H01)
R4301	EP49X506	COLOR-10K ohm, 20% (J01 & Later)
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type



19PF5734
19PC5734

CABINET BACK PARTS

KEYBOARD

PART NO.	DESCRIPTION
EP62X190	ON/OFF, VOL., & CHANNEL SELECT (F01/H01)
EP62X223	ON/OFF, VOL., & CHANNEL SELECT (J01 & Later)

KNOBS

PART NO.	DESCRIPTION
EP43X341	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel (F01/H01)
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel (J01 & Later)

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X569	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)
EP1X33	RIVET-Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X134	BRACKET-Keyboard Mounting, Plastic
EP2X638	BRACKET-Speaker Mounting, Plastic
EP99X519	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X580	ESCUTCHEON-Upper Controls, W/Readout Window
EP89X578	GRILLE-Speaker
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	Direct
PICTURE TUBE:	★ A48ACE26X
VHF TUNER:	★ EP86X88
UHF TUNER:	★ EP85X76
SPEAKER:	32 ohm, 4" EP95X14
USER'S MANUAL:	29-9203-85

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★ R4194	EP49X471	ON/OFF, VOL.-50K ohm, 30%
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type

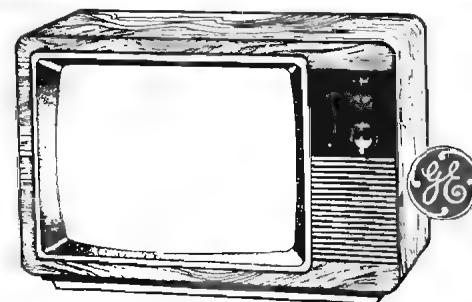
KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black
EP43X338	ON/OFF, VOL.-Black, W/Retainer
EP43X381	VHF SELECTOR-Black, W/Retainer
EP43X388	VHF FINE TUNE-Black, W/Retainer
EP43X359	UHF SELECTOR-Black, W/Retainer
EP43X361	UHF FINE TUNE-Black, W/Retainer
EP43X442	UHF INDICATOR-Black, W/Retainer

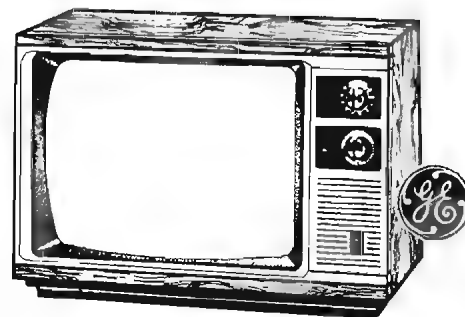
CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X53	ANTENNA TERMINAL BOARD- Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X481	CABINET BACK-Black, Plastic (19PF6703)
EP98X508	CABINET BACK-Black, Plastic (19PF6704)
EP2X540	CLEAT-Power Cord Storage
EPES3X29	CLIP-Antenna Terminal

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.



19PF6703



19PF6704

★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X533	CABINET FRONT-Cherry Woodgrain, Plastic
EP99X534	CABINET FRONT-Cherry Woodgrain, Plastic
EP89X592	ESCUTCHEON-UHF/VHF & Speaker, Black, Plastic (19PF6703)
EP89X593	ESCUTCHEON-UHF/VHF & Speaker, Gray, Plastic (19PF6704)
EP4X544	OVERLAY-UHF & VHF, Black, Alum. (19PF6703)
EP4X516	OVERLAY-UHF & VHF, Black, Alum. (19PF6704)
EP4X292	OVERLAY-Secondary Control, Black, Plastic
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground

IMPORTANT SAFETY NOTICE

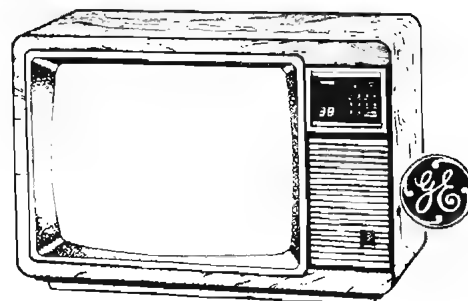
When replacing components, safety should be considered when component replacement is made in any area of a receiver. The following table provides a part in the parts list and the shaded areas in the schematic diagram designates components in which safety can be of special significance. The parts are recommended that exact cataloged parts be used. Replacement of components which are designated by a (+) in the parts list and the shaded areas in the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive temperatures.

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	KMP-112
PICTURE TUBE:	★ A48ACE26X
UHF/VHF TUNER:	★ EP93X575
REMOTE POWER RELAY BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
KMP-112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9230-85



CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%
R4260	EP49X507	PICTURE-10K ohm, 20%
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
★ S4000	EP39X221	SWITCH-On/Off, Push-Push
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X230	CHANNEL SELECT-W/On/Off Switch

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, PICTURE-Black
EP43X445	ON/OFF,-Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete

19PF6730

EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X481	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, B Back, Plastic
EP2X635	RETAINER-Push Fastener
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X114	BRACKET-KeyBoard Mounting, Plastic
EP99X494	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP4X545	ESCUTCHEON-Upper Controls, Black, Plastic
EP89X437	GRILLE-Speaker
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

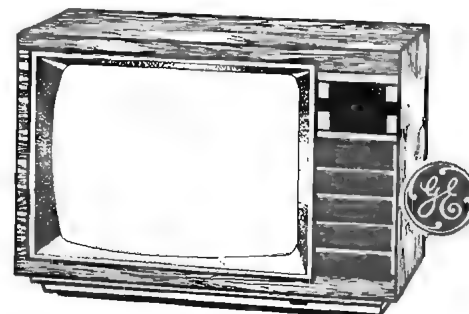
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	KMPS-112
PICTURE TUBE:	★ A48ACE40X
UHF/VHF TUNER:	★ EP93X575
REMOTE POWER RELAY BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
KMPS-112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9236-85



19PF6736

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X223	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X525	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener
EP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X126	BRACKET-KeyBoard Mounting, Plastic
EP99X536	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X595	ESCUTCHEON ASSEMBLY-Upper Controls
EP89X479	GRILLE-Speaker
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

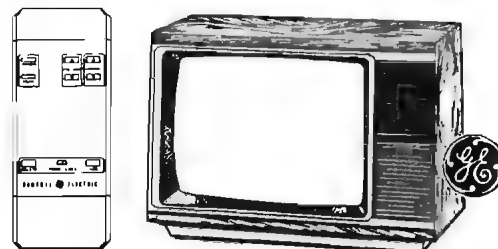
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	LMP2-112
PICTURE TUBE:	★A48ACE26X
UHF/VHF TUNER:	★EP93X575
REMOTE CONTROL RECEIVER MODULE:	EP93X617
REMOTE CONTROL TRANSMITTER:	EP62X209
REMOTE RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
LMP2-112 TUNER CONTROL BOARD:	EP93X531
USER'S MANUAL:	29-9240-85



19PF6740

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X174	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete

EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X569	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X638	BRACKET-Speaker Mounting, Plastic
EP92X140	BRACKET-Keybaord Mounting, Plastic
EP99X538	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP4X547	ESCUTCHEON-Upper Controls, Plastic
EP89X597	GRILLE-Speaker
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Spring
EP4X548	WINDOW-Channel Readout, Plastic

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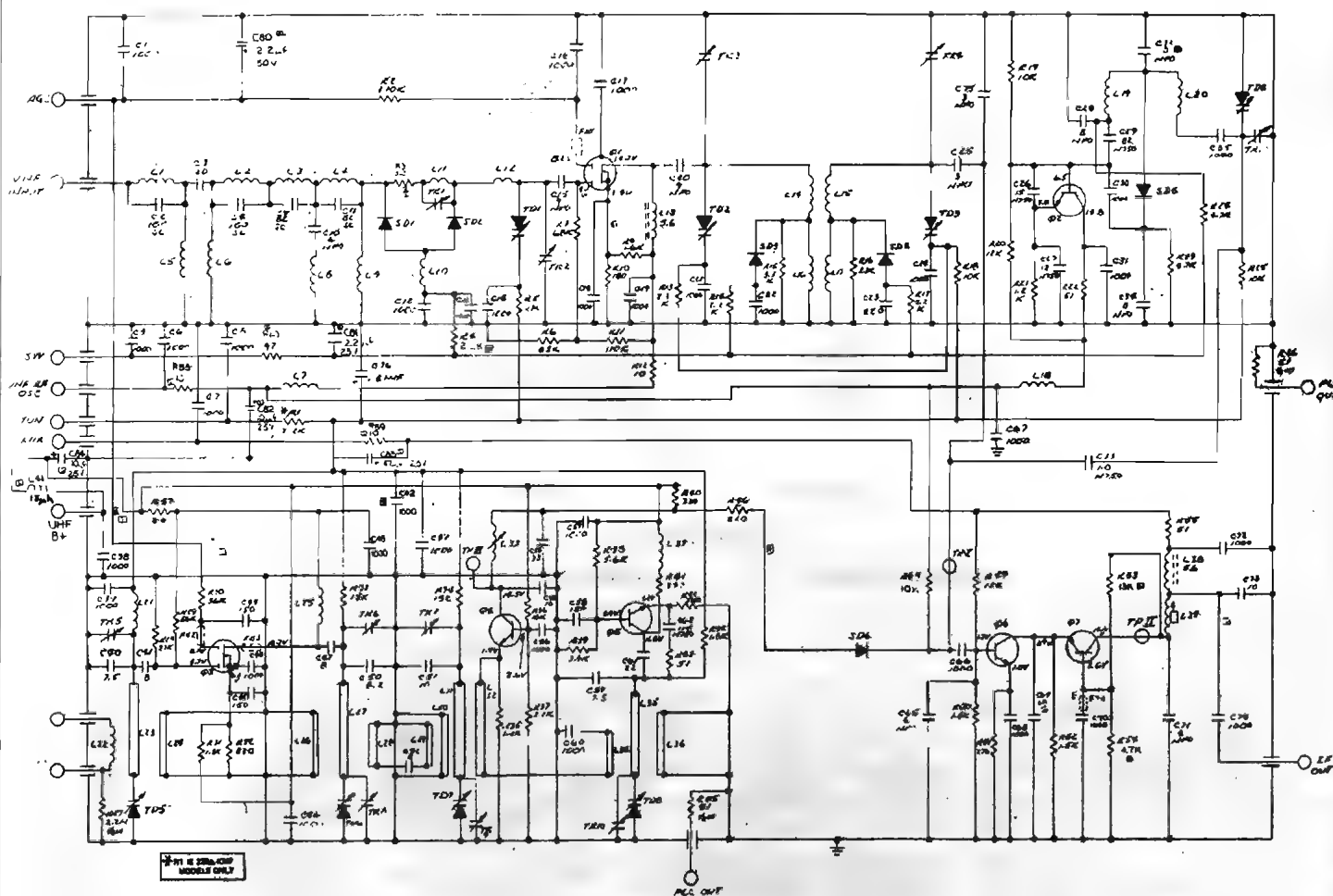
GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

TELEVISION

PC CHASSIS
UHF/VHF TUNER
EP93X387



UHF/VHF TUNER SCHEMATIC DIAGRAM EP93X387

REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
UHF/VHF TUNER EP93X387		
CAPACITORS		
C80	EP31X80	2.2uf, 50V, Electrolytic
C81	EP31X80	2.2uf, 25V, Electrolytic
C82, C83	EP31X45	47uf, 25V, Electrolytic
C84	EP31X35	10uf, 35V, Electrolytic
COILS		
L41	EP36X136	Coil (15uh) Choke
MISCELLANEOUS		
PG203/RL203	EP8X44	Connector, 6 pos. (Inc. Pins)

NOTE: FOR REPAIRS REQUIRING PARTS OTHER THAN THOSE LISTED, ORDER A COMPLETE REPLACEMENT TUNER.

PC CHASSIS MODEL INDEX (CONTINUED)

25 Inch Models

Model Number	Model Page	Model Number	Model Page
25PC2810K	(PC)1-20	25PC5803K	(PC)1-51/52
25PC2811L	(PC)1-20	25PC5806M	(PC)1-51/52
25PC2812P	(PC)1-20	25PC5808P	(PC)1-51/52
25PC3802K	(PC)1-21	25PC5830K	(PC)1-53/54
25PC3804P	(PC)1-21	25PC5831L	(PC)1-53/54
25PC3806M	(PC)1-21	25PC5832K	(PC)1-53/54
25PC3810K	(PC)1-22	25PC5842K	(PC)1-73
25PC3811L	(PC)1-22	25PC5843K	(PC)1-73
25PC3812P	(PC)1-22	25PC5846M	(PC)1-73
25PC3820K	(PC)1-23	25PC5849K/E	(PC)1-55
25PC3821L	(PC)1-23	25PC5850K	(PC)1-57/58
25PC3822P	(PC)1-23	25PC5851L	(PC)1-57/58
25PC3835K	(PC)1-24	25PC5852K	(PC)1-57/58
25PC3836L	(PC)1-24	25PC5858P	(PC)1-59
25PC3837K	(PC)1-24	25PF6802	(PC)1-93
25PC3840K	(PC)1-25	25PF6812	(PC)1-94
25PC3841L	(PC)1-25	25PF6813	(PC)1-94
25PC3842P	(PC)1-25	25PF6818	(PC)1-95
25PC3844P	(PC)1-25	25PF6830	(PC)1-97/98
25PC3845K	(PC)1-25	25PF6831	(PC)1-97/98
25PC3846L	(PC)1-26	25PF6832	(PC)1-97/98
25PC3847K	(PC)1-26	25PF6841	(PC)1-99
25PC3848K	(PC)1-26	25PF6842	(PC)1-101/102
25PC3849P	(PC)1-26	25PF6843	(PC)1-101/102
25PC4820K	(PC)1-27	25PF6846	(PC)1-101/102
25PC4821L	(PC)1-27	25PF6849	(PC)1-103
25PC4822K	(PC)1-27	25PF6850	(PC)1-105/106
25PC4830K	(PC)1-28	25PF6851	(PC)1-105/106
25PC4831M	(PC)1-28	25PF6852	(PC)1-105/106
25PC4832P	(PC)1-28	25PF6853	(PC)1-107/108
25PC4840K	(PC)1-29	25PF6854	(PC)1-107/108
25PC4842P	(PC)1-29	25PF6855	(PC)1-107/108
25PC4844P	(PC)1-29	25PF6856	(PC)1-109
25PC5802K	(PC)1-51/52	25PF6857	(PC)1-110

ET91 CONTROL ASM.

ET91 CONTROL BOARD M-R
(BOTTOM)

EP93X376

PRINTED CIRCUIT BOARD ASSEMBLIES

REF. NO.	PART NO.	DESCRIPTION
M-R	EP93X386	ET91 Control Board (Bottom)
M-S	EP93X294	ET91 Resistor Board (Top)

PARTS NOT ON MODULES

CAPACITORS

C40	EU23X4	1000pf, 500V, Feed Thru
C42	EU23X4	1000pf, 500V, Feed Thru
C44	EU23X4	1000pf, 500V, Feed Thru
C46	EU23X4	1000pf, 500V, Feed Thru
C48	EU23X4	1000pf, 500V, Feed Thru
C50	EU23X4	1000pf, 500V, Feed Thru
C52	EU23X4	1000pf, 500V, Feed Thru

RESISTORS

R28	EP14X48	10 ohm, 5%, 2W, Wirewound
R29	ES14X68	470 ohm, 5%, 1/4W, Carbon
R30	EP14X105	100K ohm, 5%, 1/4W, Carbon

TRANSISTOR

Q28	ES15X125	NPN, Silicon
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DIODES

Y29	EP16X155	Zener
Y30	EP57X6	Rectifier, Silicon

MISCELLANEOUS

	EP2X375	Case—Casing, Top & Bottom, Plastic (Middle Section) w/ Detent Springs & Bolts
	EP2X374	Cam—Encoder, Plastic
RL3	EP8X71	Connector - 6 pos.
RL10	EP8X94	Connector - 4 pos.
RL203	EP8X44	Connector - 8 pin
	EP2X238	Cover, Tuner Control, Plastic
SJ01/SJ02	EP8X23	Jack—Phone
	EP2X374	Shaft—Channel Select, Plastic
	EP39X147	Tuner Contacts, w/ Push Rods & Retainer

EP93X386

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C04	EP31X35	10uf, 50V, Electrolytic
C10	EP25X87	.047uf, 20%, 50V, Paper
C12	ES31X53	.47uf, 50V, Electrolytic
C13	EP31X11	4.7uf, 35V, Electrolytic
C15	ES25X77	.1uf, 20%, 50V, Polyester
C16	EP31X39	2.2uf, 20%, 25V, Electrolytic
C18	EP18X197	1000pf, 10%, 50V, Cer. Disc
C20	EP31X31	470uf, 16V, Electrolytic
C22	EP18X191	68pf, 5%, 50V, Cer. Disc
C23	EP18X46	4.7pf, 10%, 50V, Cer. Disc
C24	EP30X3	2pf to 6pf, 50V, Trimmer
C25	EP18X219	30pf, 5%, 50V, Cer. Disc
C26	EP18X189	.01uf, 30%, 25V, Cer. Disc
C27	EP18X262	.01uf, 10%, 50V, Cer. Disc
C28	EP18X220	1000pf, 10%, 50V, Cer. Disc
C30	EP31X35	10uf, 16V, Electrolytic
C31	EP18X144	1000pf, 10%, 50V, Cer. Disc
C32	EP18X262	.01uf, 5%, 50V, Cer. Disc
C33	EP18X169	.01uf, 30%, 25V, Cer. Disc
C41	EP25X87	.047uf, 20%, 50V, Polyester
C43	EP25X87	.047uf, 20%, 50V, Polyester
C45	EP25X87	.047uf, 20%, 50V, Polyester
C47	EP25X87	.047uf, 20%, 50V, Polyester
C49	EP25X87	.047uf, 20%, 50V, Polyester
C53	EP18X167	.047uf, 50V, +80—20, Cer. Disc.
		HiK
C54	EP25X89	.047uf, 20%, 100V, Paper

RESISTORS

F7	ES14X51	47 ohm, 5%, 1/4W, Carbon
F8	Common	39 ohm, 5%, 1/4W, Carbon
F9	Common	10 ohm, 5%, 1/4W, Carbon
R02	Common	1.2K ohm, 5%, 1/4W, Carbon
R04	Common	3.9K ohm, 5%, 1/4W, Carbon
R08	Common	43 ohm, 5%, 1/4W, Carbon
R09	EP14X196	180K ohm, 5%, 1/4W, Carbon
R10	EP14X125	47K ohm, 5%, 1/4W, Carbon
R11	EP14X125	47K ohm, 5%, 1/4W, Carbon
R12	Common	9.1K ohm, 5%, 1/4W, Carbon
R13	ES14X71	1K ohm, 5%, 1/4W, Carbon
R15	EP14X289	430 ohm, 5%, 1/4W, Carbon
R16	EP14X289	430 ohm, 5%, 1/4W, Carbon
R18	EP14X288	13K ohm, 5%, 1/4W, Carbon
R19	Common	30K ohm, 5%, 1/4W, Carbon
R20	EP14X188	15 ohm, 5%, 1/4W, Carbon
R22	EP14X104	22K ohm, 5%, 1/4W, Carbon
R23	ES14X59	560 ohm, 5%, 1/4W, Carbon
R24	Common	91 ohm, 5%, 1/4W, Carbon
R27	EP14X187	100 ohm, 5%, 1/4W, Carbon
R28	ES14X57	390 ohm, 5%, 1/4W, Carbon
R30	EP14X281	24 ohm, 5%, 1W, Metal Oxide
R31	EP14X103	10K ohm, 5%, 1/4W, Carbon
R32	Common	24K ohm, 5%, 1/4W, Carbon

CONTINUED

PC CHASSIS

ET91 CONTROL BOARD (Cont.)

INTEGRATED CIRCUIT

IC10	EP84X61	PLL Freq. Syn.
IC20	EP84X113	256 W/Pre Amp.

CRYSTALS

X24	EP41X68	Quartz Filter
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DIODES

Y04	EP16X32	Zener
Y29	EP16X146	Zener
Y30	EP16X19	Zener

TRANSISTORS

Q08	EP15X89	NPN, Regulator
Q12	EP15X88	NPN, Amplifier
Q24	EP15X104	HF, Bi Polar
Q28	EP15X25	NPN, Amplifier

ET91 RESISTOR BOARD M-S (TOP)

EP93X294

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
SR105	ES14X59	560 ohm, 5%, 1/8W, Carbon
SR110	ES14X59	560 ohm, 5%, 1/8W, Carbon
SR115	ES14X59	560 ohm, 5%, 1/8W, Carbon
SR120	ES14X59	560 ohm, 5%, 1/8W, Carbon
SR125	ES14X59	560 ohm, 5%, 1/8W, Carbon
SR130	ES14X59	560 ohm, 5%, 1/8W, Carbon
SR135	ES14X59	560 ohm, 5%, 1/8W, Carbon
SR160	ES14X59	560 ohm, 5%, 1/8W, Carbon
SR165	ES14X59	560 ohm, 5%, 1/8W, Carbon
SR170	ES14X59	560 ohm, 5%, 1/8W, Carbon
SR175	ES14X59	560 ohm, 5%, 1/8W, Carbon
SR180	ES14X59	560 ohm, 5%, 1/8W, Carbon
SR185	ES14X59	560 ohm, 5%, 1/8W, Carbon
SR190	ES14X59	560 ohm, 5%, 1/8W, Carbon

MISCELLANEOUS

RL201	EP8X40	Connector—9 pin
RL202	EP8X40	Connector—9 pin
W10	EP8X30	Connector - 1 pin

DISASSEMBLY

CONTINUED

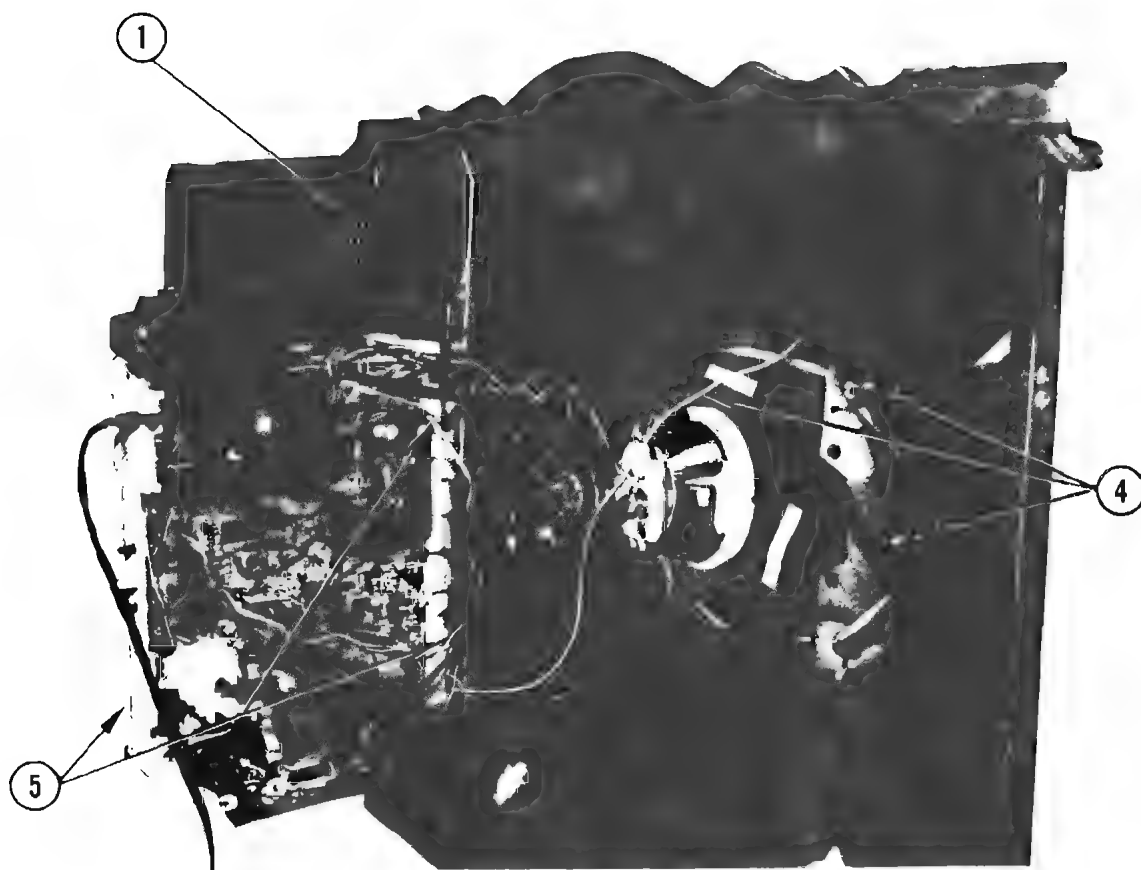
25PC SERVICE POSITION

The following procedure should be used when putting the 25PC Chassis into its Service Position:

CAUTION*Unplug receiver before proceeding!**

1. Remove cabinet back and re-mount it to the left of the cabinet as shown below.
2. Remove the two chassis mounting screws (located on each side, near cabinet rear).
3. Unplug the ground lead connected to the CRT mounting strap.
4. Remove 2nd anode lead from wire ties.
5. Turn chassis vertically (copper side of PCB facing left) and insert chassis in the slots provided on the cabinet back as shown below.

Once in the service position, the technician has access to both the component side and copper side of the PCB board.



25PC CHASSIS SERVICING POSITION

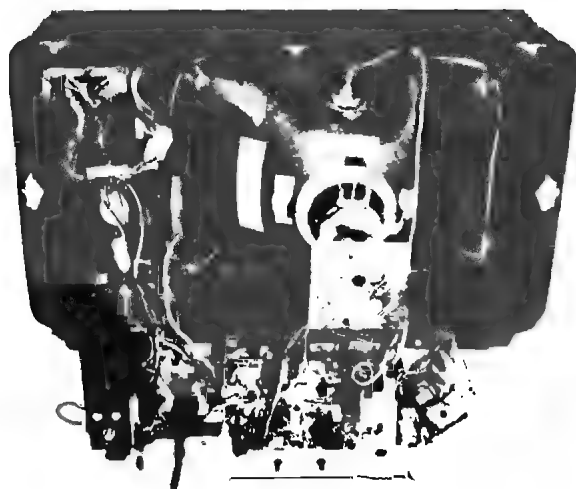
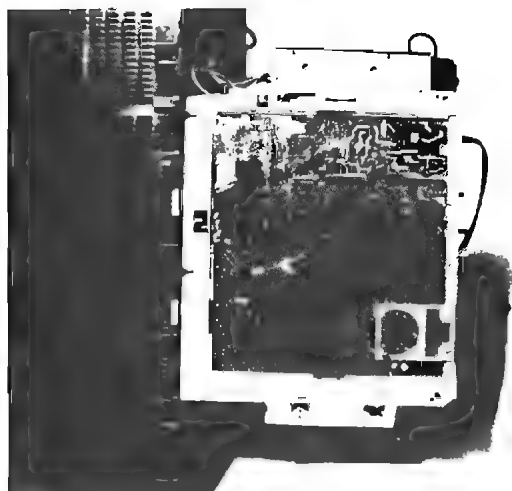
DISASSEMBLY

19PC CHASSIS SERVICE POSITION

The following procedure should be used when putting the PC Chassis into its Service Position:

CAUTION*Unplug receiver before proceeding!**

1. Disconnect Antenna leads.
2. Remove cabinet back screws.
3. Remove cabinet back.
4. Release the Main Circuit board by pressing down on the two "quick release" locking clips located at the bottom rear of the cabinet.
5. Slide the Main Circuit board out of the cabinet.
6. Place the receiver on its right side (looking from rear of set).
7. Insert the Main Circuit board into the two "slots" (see Pictorial below) at the bottom of the cabinet, and lock into Service Position.

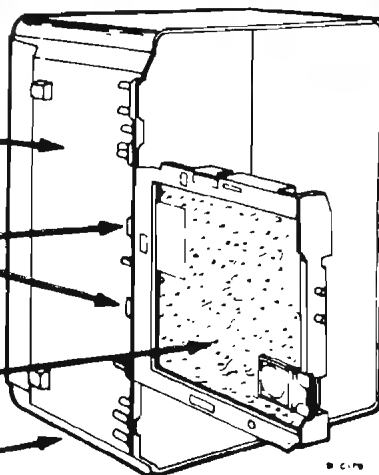


**BOTTOM OF
RECEIVER**

**"SLOTS" &
INTERLOCKING
"TABS" (2)**

**MAIN CHASSIS
CIRCUIT BOARD**

**RECEIVER
RIGHT SIDE DOWN**



25 PC CHASSIS



112 Channel

ELECTRONIC TUNING SYSTEMS

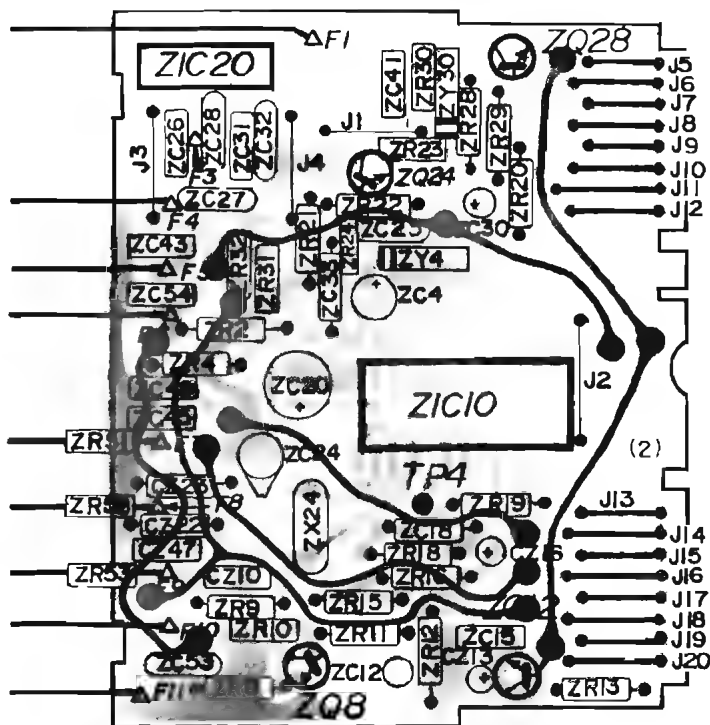
ET91 SINGLE KNOB ELECTRONIC TUNING SYSTEM WITH 112 CH. "CHIP" TUNER

KMP112 RANDOM ACCESS KEYBOARD ELECTRONIC TUNING SYSTEM

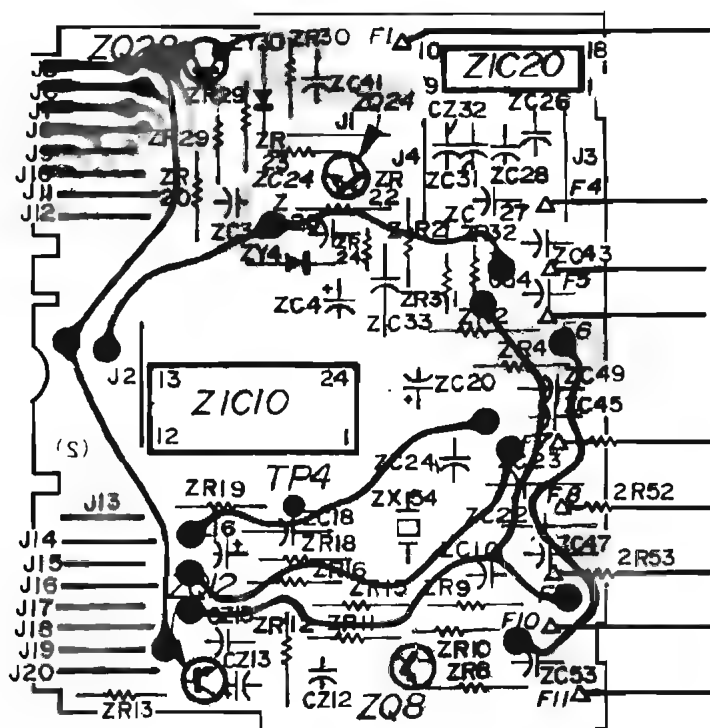
LMP112 REMOTE CONTROL SCAN PROGRAMMABLE ELECTRONIC TUNING SYSTEM

ET91 CONTROL BOARD (w/PRESCALER)

EP93X407



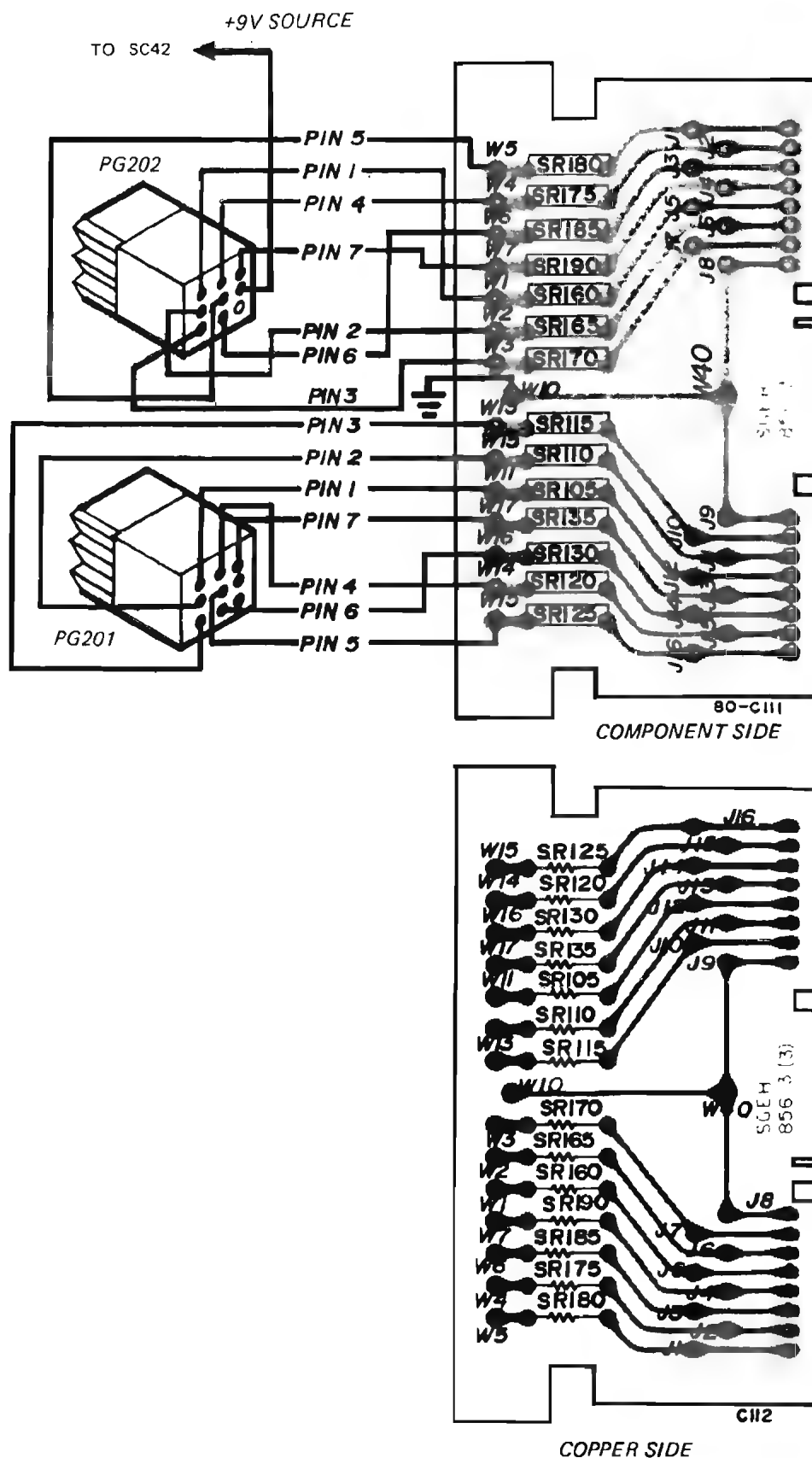
COMPONENT SIDE



COPPER SIDE

ET91 RESISTOR BOARD

EP93X406

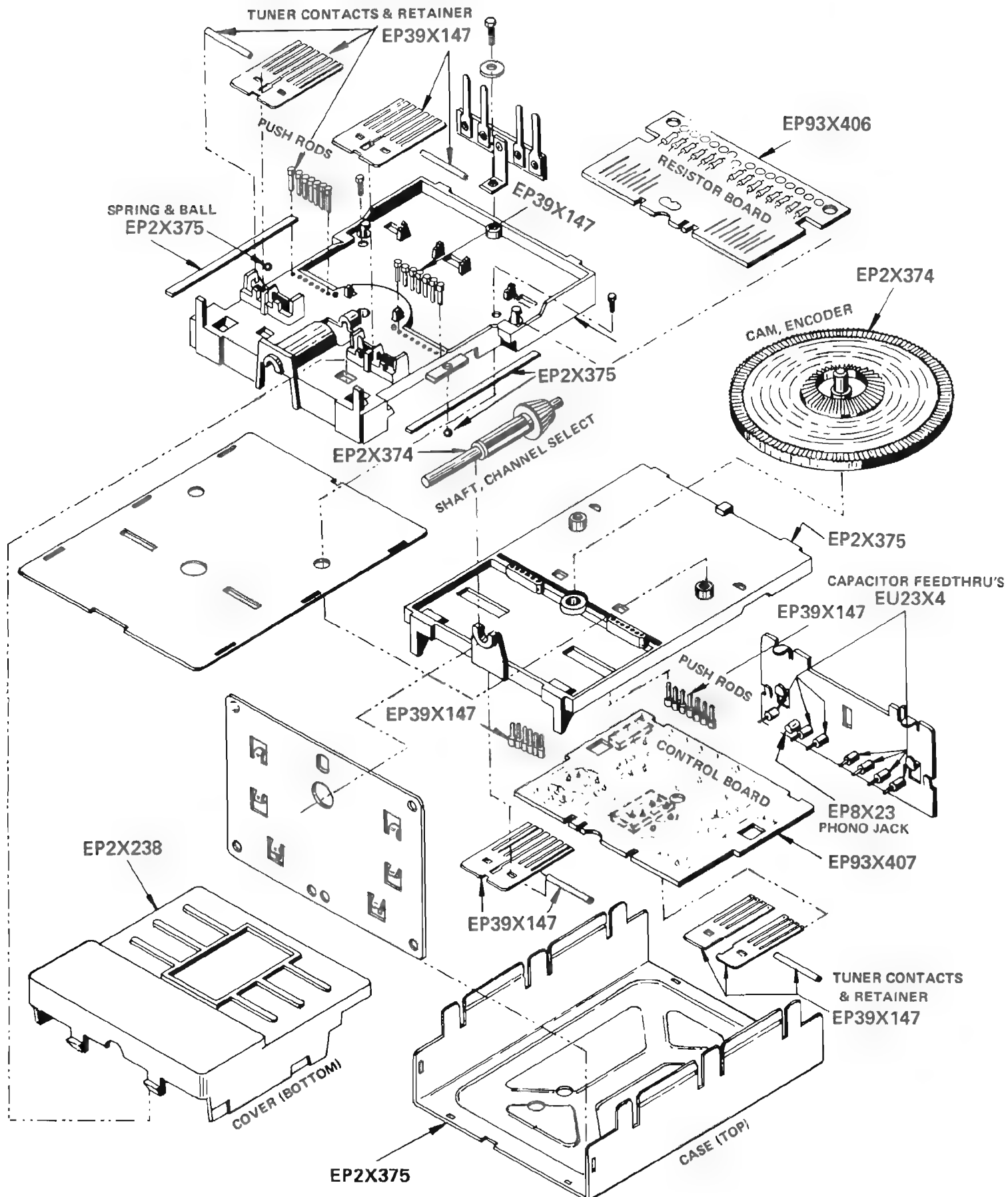


ET91 SWITCH TRUTH TABLES

O = OPEN 1 = CLOSED

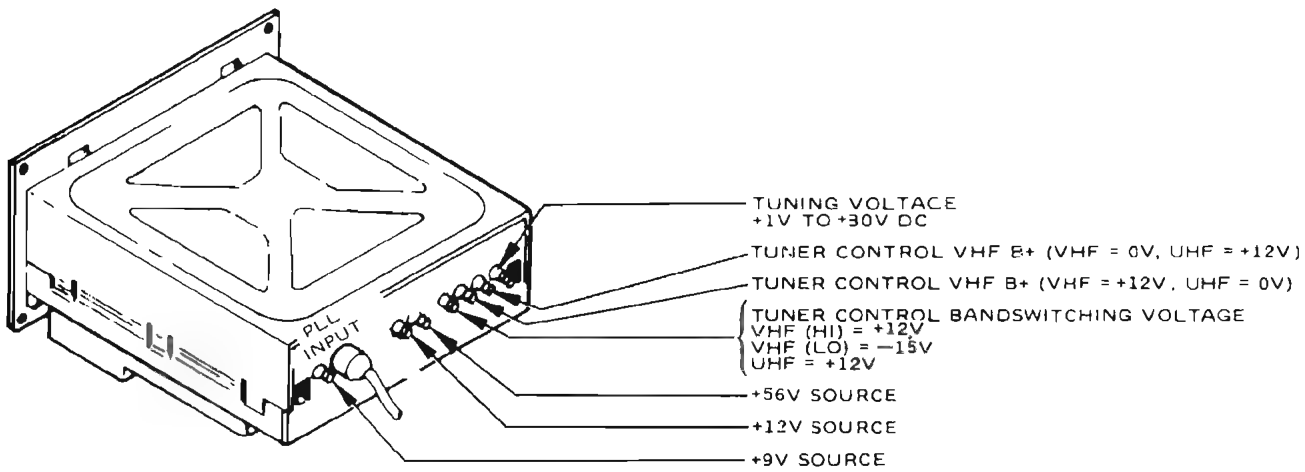
CHANNEL														↓	READ OUT CONTROL POSITION													
TUNER	CONTROL	POSITION													14	13	12	11	10	9	8	7	6	5	4	3	2	1
12	11	10	9	8	7	6	5	4	3	2	1			2	0	0	0	0	0	0	0	0	1	1	0	1	1	
0	0	1	0	1	0	0	0	0	0	1	1			3	0	0	0	0	0	0	0	1	1	1	0	1	0	
0	1	1	0	1	0	0	0	0	0	1	0			4	0	0	0	0	0	0	0	1	1	0	1	1	0	
0	1	1	0	1	0	0	0	0	0	1	1			5	0	0	0	0	0	0	0	1	0	1	1	1	0	
0	0	0	0	1	0	0	0	1	0	0	0			6	0	0	0	0	0	0	0	1	0	1	1	1	1	
1	1	1	0	1	1	0	0	1	0	1	0			7	0	0	0	0	0	0	0	1	1	0	0	0	0	
0	0	1	0	1	1	0	0	1	1	0	1			8	0	0	0	0	0	0	0	1	1	1	1	1	1	
0	0	1	0	1	1	0	0	1	1	1	0			9	0	0	0	0	0	0	0	1	1	1	1	1	0	
1	0	0	1	1	0	0	1	1	1	1				10	0	0	0	0	0	1	1	1	0	1	1	1	1	
1	1	1	0	1	1	0	0	1	1	0	0			11	0	0	0	0	0	1	1	1	0	0	0	0	0	
0	1	1	0	1	1	0	0	1	1	1				12	0	0	0	0	0	1	1	0	1	1	1	1	1	
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0	1	0	1	0	1	0	0	0	0	0				16	0	0	0	0	0	1	1	0	1	1	1	1	1	
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0	0	1	0	1	1	0	0	0	1	0	1			47	0	0	1	0	1	1	1	0	0	0	0	0	0	

CHANNEL														↓	READ OUT CONTROL POSITION													
TUNER CONTROL POSITION	12	11	10	9	8	7	6	5	4	3	2	1			14	13	12	11	10	9	8	7	6	5	4	3	2	1
0	1	1	0	1	0	1	0	1	0	0	0	0		48	0	0	1	0	1	1	1	1	1	1	1	1	1	1
1	1	1	0	1	0	1	0	1	0	0	1			49	0	0	1	0	1	1	1	1	1	1	1	1	1	0
1	1	1	0	1	0	1	0	1	0	1	0			50	0	1	1	0	1	1	1	0	1	1	1	1	1	1
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0	0	1	0	1	0	1	0	1	0	1	1	0		52	0	1	1	0	1	0	1	1	0	1	1	0	1	1
1	0	1	0	1	0	1	0	1	0	1	1			53	0	1	1	0	1	1	1	0	1	0	1	0	1	0
1	1	1	0	1	0	1	0	1	0	1	0			54	0	1	1	0	1	1	0	1	0	1	1	0	0	0
0	1	1	0	1	0	1	0	1	0	1	1			55	0	1	1	0	1	0	1	0	1	1	1	1	0	0
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1	0	0	1	0	1	1	0	0	0	0	1			57	0	1	1	0	1	1	1	0	0	0	0	0	0	0
1	0	0	1	0	1	1	0	0	0	1	0			58	0	1	1	1	0	1	1	1	1	1	1	1	1	1
0	1	0	1	0	1	1	0	0	0	1				59	0	1	1	1	0	1	1	1	1	1	1	1	0	0
0	1	0	1	0	1	1	0	0	0	1	0			60	1	1	1	1	0	1	1	1	0	1	1	1	1	1
1	1	0	1	0	1	1	0	0	0	1				61	1	1	1	1	0	1	1	1	0	0	0	0	0	0
1	0	0	1	0	1	1	0	0	0	1	0			62	1	1	1	1	0	1	0	1	1	0	1	1	1	1
0	0	0	1	0	1	1	0	0	0	1	1			63	1	1	1	1	0	1	1	1	0	1	0	1	0	0
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ET91 CONTROL ASSEMBLY (EP93X404) EXPLODED VIEWET91 CONTROL ASSEMBLY (EP93X404) EXPLODED VIEW

ET91 TUNING SYSTEM TROUBLESHOOTING CHART

SYMPTOM	PROBABLE CAUSE	TROUBLESHOOTING PROCEDURE
NO VIDEO, SNOW, MISSING CHANNELS, ETC	<p>MOST LIKELY</p> <p>↑</p> <p>—Loss of a B+ supply to the tuning system</p> <p>—IC10 —Located in the TUNER CONTROL AND SELECTOR SWITCH ASM MODULE</p> <p>—TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE</p> <p>↓</p> <p>LEAST LIKELY</p>	<p>1 Measure B+ voltages to the tuning system. If the voltages are not correct go to the main chassis service information sheet and continue.</p> <p>2 If B+ voltages are correct measure the tuning and tuner control voltages from the TUNER CONTROL ASSEMBLY to the TUNER. If the voltages are all correct the TUNER should be suspected next.</p> <p>3 If the tuning voltage does not change when channels are selected IC10 is most likely at fault. If tuner control voltages are not correct the TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE is the most likely suspect.</p>
SYMPTOM	PROBABLE CAUSE	TROUBLESHOOTING PROCEDURE
CHANNEL NUMBER INDICATOR WILL NOT LIGHT—OR SEGMENTS ARE MISSING	<p>MOST LIKELY</p> <p>↑</p> <p>—CHANNEL NUMBER INDICATOR</p> <p>↓</p> <p>TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE</p> <p>LEAST LIKELY</p>	<p>1 Turn the channel selector to differently numbered channels — observe if all segments of the readout will light. EXAMPLE: An "8 digit" should light all seven segments of one side of the display. If the "8" digit can be made to appear on each of the dual readouts, then the TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE is defective.</p> <p>2 If one or more segments refuse to light, then compare voltage and/or resistance readings of lighted segments to those of the missing ones. Comparative readings should identify either the CHANNEL NUMBER INDICATOR or TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE.</p>



ET91 TUNER CONTROL VOLTAGE CHECK POINTS

LMP112 TUNING SYSTEM TROUBLESHOOTING INFORMATION

General: In order to troubleshoot the 112 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.

POWER SUPPLIES

1. Do not unplug, but do check all voltages at RL/PG247. (Check +15V only if IC regulator is included with tuner control module).
2. Check RL231, pin 1 for 30 to 38VAC (supply for non-volatile memory B minus (-)25V supply).
3. Check RL225, pin 1 for ON/OFF Relay B+ 13 to 17VDC.
4. Check RL245, pin 1 for Remote Receiver B+ 7.5 to 8.5 VDC.

NOTE:

RL225 Pin 1, +15 V must be correct before the set will switch on. If supplies are OK, the On/OFF relay may be forced on by grounding pin 2 of RL/PG225 through a 100 ohm, ½ watt resistor. Replace Q614 if necessary, otherwise inspect TV power supplies.

5. Check for shorted or loose wires and cables. They are frequently the cause of trouble.

TROUBLESHOOTING ORDER

In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check:

1. Tuner/Bandswitch transistors
2. Microprocessor (IC601)
3. Keyboard
4. IC600 (I/O) Chip
5. IC800 (EAPROM)
6. IC500 (PLL CHIP)

CATEGORIZED SYMPTOMS

- No Remote control (Keyboard works OK).
(Note. LMP/MP Keyboard follows favorite/sequential action of transmitter 5 button keybd.)
Check Transmitter
- Dark Raster (LED Readout Display OK)
Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
Check Bandswitch Transistors

- No Channel, No Keyboard or Remote operation with Relay forced ON (LMP)
Check Microprocessor (IC601)
- No Last Channel or Favorite Channel Memory during power failure.
Check IC800
- Readout Display OK, but Channels Off-Frequency
Check Bandswitch voltage, if OK, check IC500 (PLL Chip).

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microprocessor.

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O), or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry.

Check the IF per Main Chassis troubleshooting chart. IF OK, PROCEED TO LMP ELECTRONIC TUNING TROUBLESHOOTING FOR POSSIBLE SOLUTION TO THE PROBLEM.

U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels: CH 1=28V, 6=20V, 13=19V, 33=6.5V and 82=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

112 CHANNEL ELECTRONIC TUNING SYSTEMS "BANDSWITCHING VOLTAGE CHART"

	LO-VHF (CHANNEL 2-6)	HI-VHF (CHANNEL 7-13) & MIDBAND (CHANNEL 14-22 or A-I)	SUPERBAND (CHANNEL 23-36 or J-W)	HYPERBAND (CHANNEL 37-57)
RECEIVING BAND	BAND I	BAND II	BAND III	BAND IV
SW1 +/-10%	-15V	-15V	+9V	-15V
SW2 +/-10%	-15V	+9V	+9V	+9V
VHF RF & OSC B+ +/-10%	+12V	+12V	+12V	0V
MIXER B+ +/-10%	+12V	+12V	+12V	+12V
UHF B+ +/-10%	0V	0V	0V	+12V
AGC • MAX GAIN	0.0V	0.0V	0.0V	0.0V
TUNING VOLTAGE	0-30	0-30	0-30	0-30

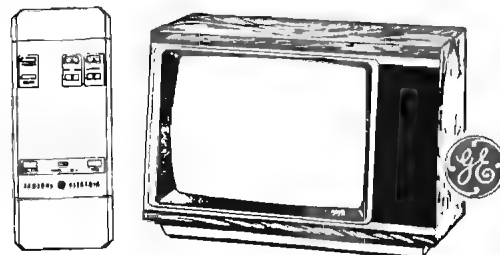
112 CHANNEL UHF/VHF TUNER "BANDSWITCHING VOLTAGE CHART"

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	LMP1B-130
PICTURE TUBE:	★A48ACE40X
UHF/VHF TUNER:	★EP93X574
REMOTE CONTROL RECEIVER MODULE:	EP93X617
REMOTE CONTROL TRANSMITTER:	EP62X209
REMOTE POWER RELAY BOARD:	EP93X544
SPEAKER:	32 ohm, 4" EP95X14
LMP1B-130 TUNER CONTROL BOARD:	EP93X531
USER'S MANUAL:	29-9244-85



19PF6744

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X508	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)

KEYBOARD

PART NO.	DESCRIPTION
EP62X174	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP99X537	CABINET FRONT-Oak Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP4X547	ESCUTCHEON-Upper Controls, Black
EP89X596	GRILLE CLOTH-Speaker
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground
EP4X548	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

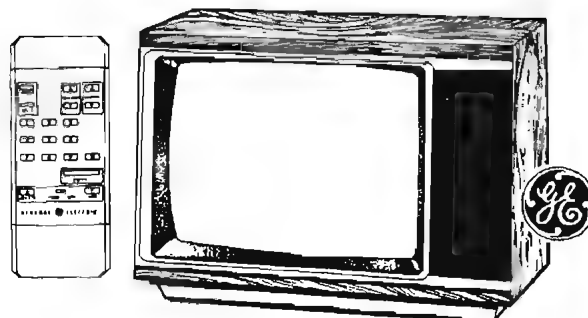
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	MP1B-112
PICTURE TUBE:	★ A48ACE40X
UHF/VHF TUNER:	★ EP93X575
REMOTE CONTROL RECEIVER MODULE:	EP93X617
REMOTE CONTROL TRANSMITTER:	EP62X208
REMOTE POWER RELAY CIRCUIT BOARD:	EP93X544
SPEAKER:	32 ohm, 4" EP95X14
MP1B-112 TUNER CONTROL BOARD:	EP93X531
USER'S MANUAL:	29-9252-85



19PF6752

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X525	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X174	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X115	BRACKET-KeyBoard Mounting, Plastic
EP99X536	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP4X554	DOOR-KeyBoard Access
EP89X599	ESCUTCHEON-Upper Controls, Black, Plastic
EP89X600	GRILLE CLOTH-Speaker
EP4X292	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground
EP4X484	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

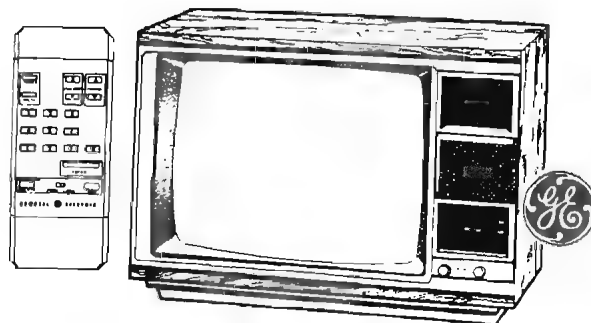
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	MP1-112
PICTURE TUBE:	★A48ACE40X
UHF/VHF TUNER:	★EP93X575
AM/FM RADIO CIRCUIT BOARD:	EP93X545
BATTERY: Nickel Cadmium	EP58X3
RADIO POWER SUPPLY/KEYBOARD ASM:	EP93X549
RELAY CIRCUIT BOARD:	EP93X594
REMOTE CONTROL RECEIVER MODULE:	EP93X617
REMOTE CONTROL TRANSMITTER:	EP62X206
SPEAKER: 32 ohm, 4"	EP95X14
MP1-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9254-85



19PF6754

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
KSW01	EP39X207	SWITCH-Radio/TV Select, Push & Lock
KSW02	EP39X207	SWITCH-On/Off Clock Alarm, Push & Lock
KSW03	EP39X206	SWITCH-Clock Alarm Set, Push
KSW04	EP39X206	SWITCH-Clock Fast, Push
KSW05	EP39X206	SWITCH-Clock Slow, Push
KSW06	EP39X206	SWITCH-Clock Time Set, Push
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
S1	EP39X212	SWITCH-AM/FM, Slide Type
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X221	VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP47X65	CLOCK ALARM SET, FAST/SLOW, & ALARM ON/TIME SET-Chrome
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black
EP47X64	TV/RADIO & ON/OFF CLOCK ALARM-Chrome
EP43X461	RADIO-Vol., Black W/Chrome Cap. W/Retainer
EP43X462	RADIO-Tuning, Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down
EP37X72	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X508	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

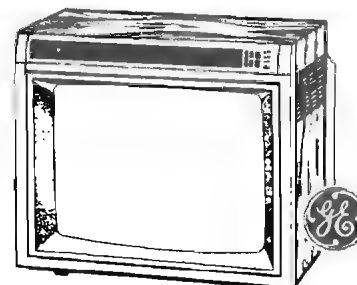
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CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X122	BRACKET-Radio/Clock Support, Plastic
EP92X133	BRACKET-Keyboard Mounting, Plastic
EP99X507	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP41X147	CLOCK/TIMER READOUT DISPLAY
EP89X601	ESCUTCHEON-Clock/Radio
EP89X577	GRILLE CLOTH-Speaker
EP4X292	OVERLAY-Secondary Controls, Inlay
EP2X613	POINTER-Station Indication, Lexan
EP4X455	RADIO DIAL SCALE-Lexan
EP3X53	SPRING-CRT Ground
EP4X556	WINDOW-Channel Readout, Black, Plastic

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	MP1-130
PICTURE TUBE:	★A48ACE40X
UHF/VHF TUNER:	★EP93X574
COLOR MONITOR SWITCH BOARD:	EP93X635
REMOTE CONTROL RECEIVER MODULE:	EP93X599
REMOTE CONTROL TRANSMITTER:	EP62X208
REMOTE POWER RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 16 ohm, 3"	EP95X54
MP2-130 TUNER CONTROL BOARD:	EP93X541



19PF6755

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X499	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X499	PICTURE-10K ohm, 20%, Detent
R4300	EP49X491	TINT-10K ohm, 20%
R4301	EP49X491	COLOR-10K ohm, 20%
SW14	EP39X207	SWITCH-Color Monitor, Push
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

EP37X68	ANTENNA TERMINAL BOARD-Complete
EP2X582	BRACKET-VHF Antenna Mounting, Plastic
EP98X568	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)

KEYBOARD

PART NO.	DESCRIPTION
EP62X227	ON/OFF, VOL., & CHANNEL SELECT-W/Readout Display

KNOBS

PART NO.	DESCRIPTION
EP47X60	COLOR, TINT, BRIGHTNESS, & PICTURE-Black W/Retainer
EP47X61	BUTTON-Color Monitor, Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP83X19	ANTENNA CUSTOMER CHANGEABLE-VHF Complete
EP83X13	ANTENNA-UHF Bowtie Type
EP83X17	ANTENNA-VHF, Fold-Down

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X141	BRACKET-Speaker Mounting, Plastic
EP92X142	BRACKET-Remote Receiver Board Mounting, Plastic
EP92X143	BRACKET-Escutcheon Mounting, Plastic
EP99X540	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP4X555	DOOR-Keyboards Access, Black, Plastic
EP2X653	DOOR CATCH-Lexan
EP2X652	DOOR HINGES-Lexan, Qty 2
EP54X258	DOOR LABEL-For Controls, Plastic
EP89X603	ESCUTCHEON-Upper Controls, Black, Plastic
EP54X258	OVERLAY-For Inside Control Door (Label)
EP3X56	SPRING-CRT Ground
EP3X60	SWITCH PAD-Cushion

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	MP1-130
PICTURE TUBE:	* A48ACE40X
UHF/VHF TUNER:	* EP93X574
COLOR MONITOR/STEREO SWITCH BOARD:	EP93X634
DECODER CIRCUIT BOARD:	EP93X623
REMOTE CONTROL RECEIVER MODULE:	EP93X599
REMOTE CONTROL TRANSMITTER:	EP62X207
REMOTE POWER RELAY CIRCUIT BOARD:	EP93X544
STEREO AMPLIFIER CIRCUIT BOARD:	EP93X622
SPEAKER: 16 ohm, 3"	EP95X54
MP1-130 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9256-85

CONTROLS

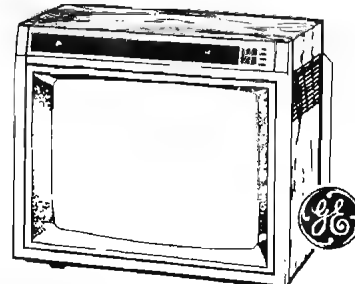
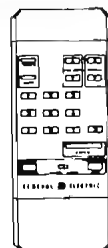
REF. NO.	PART NO.	DESCRIPTION
R4150	EP49X492	BALANCE-15K ohm, 20%
R4155	EP49X492	BASS-15K ohm, 20%
R4160	EP49X492	TREBLE-15K ohm, 20%
R4220	EP49X499	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X499	PICTURE-10K ohm, 20%, Detent
R4300	EP49X491	TINT-10K ohm, 20%
R4301	EP49X491	COLOR-10K ohm, 20%
SW10	EP39X207	SWITCH-Stereo/Mode, Push
SW14	EP39X207	SWITCH-Color Monitor, Push
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X228	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP47X60	COLOR, TINT, BRIGHTNESS, & PICTURE-Black
EP47X60	TREBLE, BASS, & BALANCE-Black
EP47X61	STEREO & COLOR MONITOR-Black



19PF6756

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP92X145	BRACKET-Antenna Terminal, Plastic
EP4X565	BRACKET-Antenna Hole Cover
EP98X568	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
* EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)
EP8X127	JACK-Audio Output, Phono Type, J01 & J02

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X141	BRACKET-Speaker Mounting, Plastic
EP92X143	BRACKET-Escutcheon Mounting, Plastic
EP92X142	BRACKET-Remote Receiver Mounting, Plastic
EP99X543	CABINET FRONT-Rosewood Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP4X555	DOOR-Keyboard Access
EP2X653	DOOR CATCH
EP2X652	DOOR HINGES
EP54X259	DOOR LABEL-Inside Controls, Black, Plastic
EP89X602	ESCUTCHEON-Upper Controls, Black, Plastic
EP8X127	JACK-Phono Type, J01 & J02
EP54X259	OVERLAY-Label For Inside Door, Black, Plastic
EP3X56	SPRING-CRT Ground
EP3X60	SWITCH PAD-Foam

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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SERVICE INFORMATION

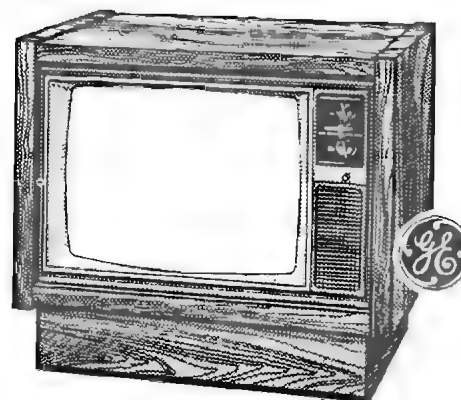
PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	Direct
PICTURE TUBE:	★ A63ABZ26X
VHF TUNER:	★ EP86X88
UHF TUNER:	★ EP85X76
SPEAKER: 32 ohm, 4"	EP95X14
USER'S MANUAL:	29-9602-85

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
★ R4194	EP49X477	ON/OFF, VOL.-50K ohm, 30%
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type



25PF6802

KNOBS

PART NO.	DESCRIPTION
EP43X338	ON/OFF, VOL.-Black, W/Retainer
EP43X434	VHF SELECTOR-Black, W/Retainer
EP43X437	VHF FINE TUNE-Black, W/Retainer
EP43X454	VHF READOUT-Black, W/Retainer
EP43X435	UHF SELECTOR-Black, W/Retainer
EP43X436	UHF FINE TUNE-Black, W/Retainer
EP43X439	UHF READOUT-Black, W/Retainer

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X59	ANTENNA TERMINAL BOARD- Complete
EP98X572	CABINET BACK-Hardboard
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X141	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X649	BRACKET-CRT Corner Mounting, Plastic
EP99X423	CABINET FRONT-Oak Woodgrain, Plastic
EP91X80	DOOR-Grille
EP2X376	DOOR CATCH
EP2X614	DOOR HANDLE
EP2X554	DOOR HINGE
EP89X468	ESCUTCHEON-UHF/VHF, Bronze, Lexan
EP4X354	LENS-UHF & VHF Readout, Plastic
EP4X376	OVERLAY-Secondary Controls,
EP41X128	PILOT LIGHT-UHF/VHF Channel Readout
EP1X33	RIVET-Door Hinge, Plastic
EP3X56	SPRING-CRT Ground

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	KMP-112
PICTURE TUBE:	★A63ABZ26X
UHF/VHF TUNER:	★EP93X575
RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
KMP-112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9612-85

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
★S4000	EP39X221	SWITCH-ON/OFF
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

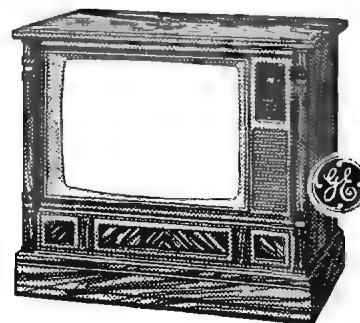
PART NO.	DESCRIPTION
EP62X230	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

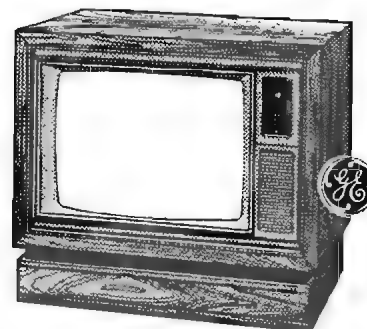
PART NO.	DESCRIPTION
EP43X447	ON/OFF-Black

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X68	ANTENNA TERMINAL BOARD- Complete
EP98X573	CABINET BACK-Hardboard (25PF6812)
EP98X574	CABINET BACK-Hardboard (25PF6813)
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X74	TUBE CAP-CRT Cover, Black Plastic (25PF6812)
EP91X141	TUBE CAP-CRT Cover, Black, Plastic (25PF6813)



25PF6812



25PF6813

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X649	BRACKET-CRT Corner Mounting, Plastic
EP99X461	CABINET FRONT-Oak Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X80	DOOR-Grille, Oak Woodgrain, Plastic
EP2X376	DOOR CATCH
EP2X614	DOOR HANDLE-Plastic
EP2X554	DOOR HINGE
EP1X33	DOOR PIN-Hinge, Rivet, Plastic
EP89X610	ESCUTCHEON-Upper Controls, Oak Woodgrain, Plastic
EP4X376	OVERLAY-Secondary Controls
EP3X40	RETAINER-LED Spring
EP3X56	SPRING-CRT Ground

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

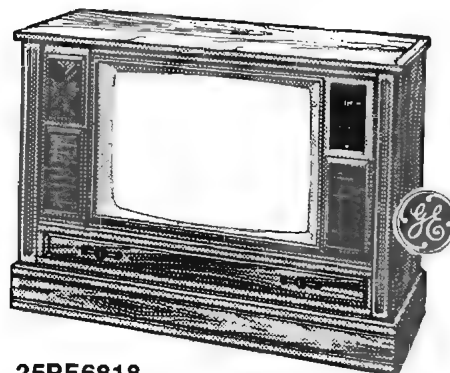
Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create shock, fire or other hazards, or excessive X-Radiation.

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	KMP-112
PICTURE TUBE:	★ A63ABZ26X
UHF/VHF TUNER:	★ EP93X575
DECORDER CIRCUIT BOARD:	EP93X623
RELAY CIRCUIT BOARD:	EP93X544
STEREO CIRCUIT BOARD:	EP93X622
SPEAKER: 32 ohm, 4"	EP95X52
KMP-112 TUNER CONTROL BOARD:	EP93X629
USER'S MANUAL:	29-9618-85



25PF6818

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4155	EP49X510	BASS-15K ohm, 20%
R4160	EP49X510	TREBLE-15K ohm, 20%
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP43X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
★ S4000	EP39X221	SWITCH-On/Off
S4001	EP39X53	SWITCH-Bilingual
S4002	EP39X53	SWITCH-Stereo/Mono
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X230	ON/OFF, VOL., & CHANNEL SELECT

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X68	ANTENNA TERMINAL BOARD- Complete
EP98X575	CABINET BACK-Hardboard
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X141	TUBE CAP-CRT Cover, Black Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X649	BRACKET-CRT Corner Mounting, Plastic
EP99X547	CABINET FRONT-Black, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X145	DOOR-W/Grille Cloth, Oak Woodgrain, Plastic
EP2X376	DOOR CATCH
EP2X554	DOOR HINGE
EP1X33	DOOR PIN-Hinge, Rivet, Plastic
EP89X611	ESCUTCHEON-Upper Controls, Oak Woodgrain
EP4X558	OVERLAY-Secondary Controls, Black
EP41X14	PILOT LIGHT-Red, Y4001 & Y4003
EP1X46	RETAINER-Speaker Mounting Fastener (4 Used)
EP3X40	RETAINER-LED Spring
EP34X72	SOCKET-L.E.D.
EP3X56	SPRING-CRT Ground

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X181	PULL-Decorative (Order 2)

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	KMPS-112
PICTURE TUBE:	★ A63ABZ40X
UHF/VHF TUNER:	★ EP93X575
RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
KMPS-112 TUNER CONTROL BOARD:	EP93X530
USER'S MANUAL:	29-9630-85

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

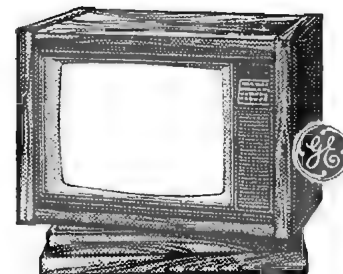
KEYBOARD

PART NO.	DESCRIPTION
EP62X225	ON/OFF, VOL., & CHANNEL SELECT

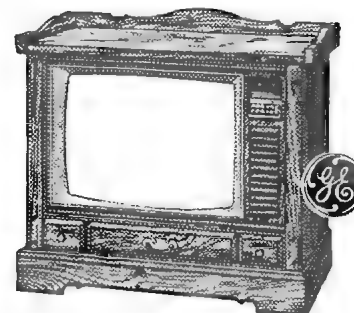
CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP98X576	CABINET BACK-Hardboard (25PF6830)
EP98X577	CABINET BACK-Hardboard (25PF6831)
EP98X578	CABINET BACK-Hardboard (25PF6832)
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X141	TUBE CAP-CRT Cover, Black Plastic (25PF6830)
EP91X74	TUBE CAP-CRT Cover, Black, Plastic (25PF6831/6832)

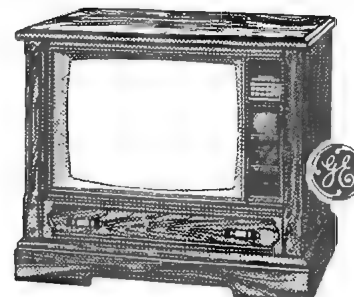
BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.



25PF6830



25PF6831



25PF6832

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X649	BRACKET-CRT Corner Mount.ng, Plastic
EP92Z146	BRACKET-Keyboad Mounting, Plastic
EP99X520	CABINET FRONT-Oak Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X129	DOOR-Grille, Oak Woodgrain, Plastic (25PF6830)
EP91X130	DOOR-Grille, Oak Woodgrain, Plastic (25PF6831)
EP91X131	DOOR-Grille, Oak Woodgrain, Plastic (25PF6832)
EP4X468	DOOR BUMPER
EP78X66	DOOR HANDLE
EP2X626	DOOR HINGE
EP1X33	DOOR PIN-Hinge, Rivet, Plastic
EP89X612	ESCUTCHEON-Upper Controls, Oak Woosgrain, Plastic
EP4X514	OVERLAY-Secondary Controls
EP3X56	SPRING-CRT Ground

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X85	KNOB-Decorative (Order 2) (25PF6831)
EP4X121	PULL-Decorative (25PF6831)
EP4X53	PULL-Decorative (Order 2) (25PF6832)

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

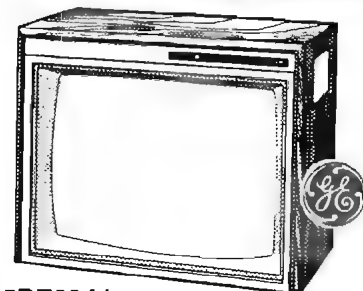
CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	MP1B-112
PICTURE TUBE:	★ A63ABZ40X
UHF/VHF TUNER:	★ EP93X575
REMOTE CONTROL RECEIVER MODULE:	EP93X482 (J02)
REMOTE CONTROL RECEIVER MODULE:	EP93X599 (J03)
REMOTE CONTROL TRANSMITTER:	EP62X197 (J02)
REMOTE CONTROL TRANSMITTER:	EP62X208 (J03)
REMOTE POWER RELAY CIRCUIT BOARD:	EP93X544
TOP TUNING CIRCUIT BOARD:	EP93X552 (J02)
TOP TUNING CIRCUIT BOARD:	EP93X614 (J03)
SPEAKER: 16 ohm, 4" (2 Used)	EP95X25
MP1B-112 TUNER CONTROL BOARD:	EP93X541 (J02)
MP1B-112 TUNER CONTROL BOARD:	EP93X531 (J03)
USER'S MANUAL:	29-9641-85

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X499	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X499	PICTURE-10K ohm, 20%, Detent
R4300	EP49X491	TINT-10K ohm, 20%
R4301	EP49X491	COLOR-10K ohm, 20%
SW01	EP39X150	SWITCH-On/Off, Push (J03)
SW02	EP39X150	SWITCH-Volume Up, Push (J03)
SW03	EP39X150	SWITCH-Volume Down, Push (J03)
SW04	EP39X150	SWITCH-Channel Up, Push (J03)
SW05	EP39X150	SWITCH-Channel Down, Push (J03)
SW07	EP39X207	SWITCH-Color Monitor, Push (J03)
SW4001	EP39X206	SWITCH-On/Off, Push (J02)
SW4002	EP39X206	SWITCH-Volume Up, Push (J02)
SW4003	EP39X206	SWITCH-Volume Down, Push (J02)
SW4004	EP39X206	SWITCH-Channel Up, Push (J02)
SW4005	EP39X206	SWITCH-Channel Down, Push (J02)
SW4012	EP39X207	SWITCH-Color Monitor, Push (J02)
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KNOBS

PART NO.	DESCRIPTION
EPEP47X59	CHANNEL UP/CHANNEL DOWN
EPEP47X61	COLOR MONITOR
EPEP47X60	COLOR, TINT, BRIGHTNESS, & PICTURE-W/Retainer
EPEP47X59	ON/OFF, VOL.-Up/Down



25PF6841
CABINET BACK PARTS

PART NO.	DESCRIPTION
EPEP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EPEP37X68	ANTENNA TERMINAL BOARD-Complete
EPEP98X584	CABINET BACK-Black, Plastic
EPEP2X540	CLEAT-Power Cord Storage
EPEP3X29	CLIP-Antenna Terminal
★ EPEP6X19	CORD-AC Power, Polarized
EPEP4X175	COVER-Service Information, Black, Plastic
EPEP2X635	RETAINER-Push Fastener (2 Used)
EPEP1X33	RIVET-Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EPEP2X594	BRACKET-CRT Corner Mounting, Lexan
EPEP99X568	CABINET FRONT-Black, Plastic
EPEP97X114	CABINET WRAP-Wood, W/Vinyl Woodgrain
EPEP41X151	CHANNEL NUMBER READOUT DISPLAY-Green
EPEP2X655	CLIP-Speaker Mounting (8 Used)
EPEP91X142	DOOR-Top Tuning, Bronze, Plastic
EPEP2X596	DOOR ARM ASSEMBLY (J02)
EPEP2X619	DOOR ARM ASSEMBLY (J03)
EPEP2X596	DOOR CATCH
EPEP2X593	DOOR HINGES
EPEP2X644	DOOR LATCH
EPEP4X475	DOOR PIN (J02)
EPEP2X656	DOOR PIN (J03)
EPEP89X550	GRILLE-Speaker (2 Used)
EPEP54X253	OVERLAY-Top Tuning
EPEP54X540	OVERLAY-Secondary Controls (J02)
EPEP54X250	OVERLAY-Secondary Controls (J03)
EPEP3X56	SPRING-CRT Ground
EPEP3X54	SWITCH PAD-Foam
EPEP4X481	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	MP1B-112
PICTURE TUBE:	★ A63ABZ26X
UHF/VHF TUNER:	★ EP93X575
RELAY CIRCUIT BOARD:	EP93X544
REMOTE CONTROL RECEIVER MODULE:	EP93X599
REMOTE CONTROL TRANSMITTER:	EP62X208
SPEAKER: 32 ohm, 4"	EP95X14
MP1B-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9642-85

CONTROLS

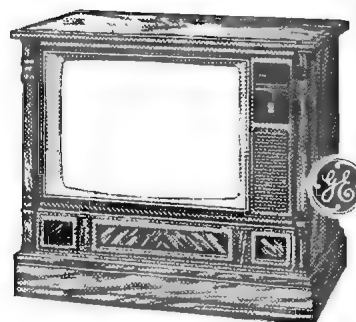
REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

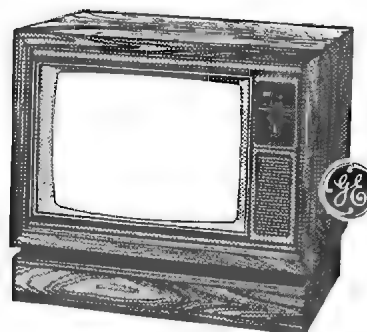
PART NO.	DESCRIPTION
EP62X174	ON/OFF, VOL., & CHANNEL SELECT

CABINET BACK PARTS

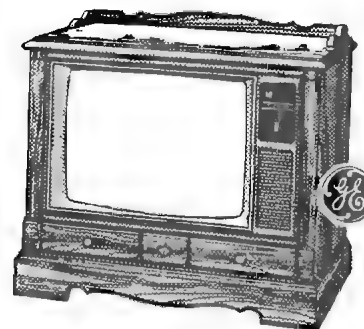
PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X68	ANTENNA TERMINAL BOARD- Complete
EP98X573	CABINET BACK-Hardboard (25PF6842)
EP98X574	CABINET BACK-Hardboard (25PF6843)
EP98X580	CABINET BACK-Hardboard (25PF6846)
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X74	TUBE CAP-CRT Cover, Black, Plastic (25PF6841 & 25PF6846)
EP91X141	TUBE CAP-CRT Cover, Black, Plastic (25PF6843)



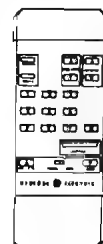
25PF6842



25PF6843



25PF6846



BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X649	BRACKET-CRT Corner Mounting, Lexan
EP99X459	CABINET FRONT-Oak Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X80	DOOR-Grille, Controls Cover, Plastic
EP2X376	DOOR CATCH
EP2X614	DOOR HANDLE
EP2X554	DOOR HINGE
EP89X613	ESCUTCHEON-Upper Controls
EP4X376	OVERLAY-Secondary Controls
EP4X377	OVERLAY-Inlay
EP4X420	OVERLAY-Nameplate
EP1X33	RIVET-Plastic
EP3X56	SPRING-CRT Ground

MISCELLANEOUS

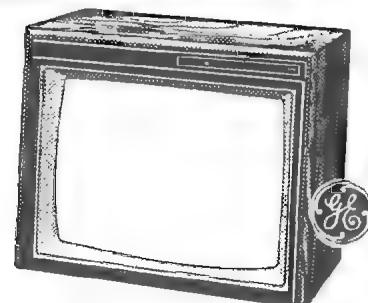
PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X180	DECORATIVE KEYHOLE-(25PF6846)
EP4X85	KNOB-Decorative (Order 2) (25PF6846)

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	MP1-112
PICTURE TUBE:	★ A63ABZ40X
UHF/VHF TUNER:	★ EP93X575
DECODER CIRCUIT BOARD:	EP93X623
RELAY CIRCUIT BOARD:	EP93X544
REMOTE CONTROL RECEIVER MODULE:	EP93X599
REMOTE CONTROL TRANSMITTER:	EP62X207
STEREO CIRCUIT BOARD:	EP93X622
TOP TUNING CIRCUIT BOARD:	EP93X615
SPEAKER: 16 ohm 4" (2 Used)	EP95X52
MP1-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9649-85



25PF6849



CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4150	EP49X492	BALANCE-15K ohm, 20%
R4155	EP49X492	BASS-15K ohm, 20%
R4160	EP49X492	TREBLE-15K ohm, 20%
R4220	EP49X499	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X499	PICTURE-10K ohm, 20%, Detent
R4300	EP49X491	TINT-10K ohm, 20%
R4301	EP49X491	COLOR-10K ohm, 20%
SW01	EP39X150	SWITCH-ON/Off
SW02	EP39X150	SWITCH-Vol Up
SW03	EP39X150	SWITCH-Vol Down
SW04	EP39X150	SWITCH-Channel Up
SW05	EP39X150	SWITCH-Channel Down
SW06	EP39X207	SWITCH-Color Monitor
SW07	EP39X207	SWITCH-Stereo On/Off
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KNOBS

PART NO.	DESCRIPTION
EP47X60	BASS, BALANCE, & TREBLE
EP47X78	CHANNEL UP/CHANNEL DOWN
EP47X60	COLOR, TINT, BRIGHTNESS, & PICTURE
EP47X61	COLOR MONITOR & STEREO
EP47X78	ON/OFF, VOL. UP/DOWN

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP92X154	BRACKET-Antenna Balun Mounting, Plastic
EP98X584	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP2X635	RETAINER-Push Fastener (2 Used)

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X594	BRACKET-CRT Corner Mounting, Lexan
EP99X549	CABINET FRONT-Black, Plastic
EP41X151	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X143	DOOR-Top Tuning, Black, Plastic
EP2X619	DOOR ARM ASSEMBLY
EP2X596	DOOR CATCH
EP2X593	DOOR HINGES
EP2X644	DOOR LATCH ASSEMBLY
EP2X656	DOOR PIN
EP89X550	GRILLE-Speaker (2 Used)
EP54X266	OVERLAY-Top Tuning Controls, Lexan
EP4X512	OVERLAY-Secondary Controls
EP2X655	RETAINER-Speaker Mounting (8 Used)
EP3X56	SPRING-CRT Ground
EP3X54	SWITCH PAD-Foam
EP4X481	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

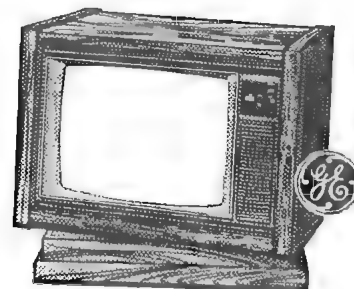
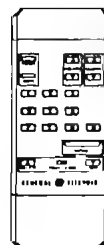
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SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	MP1B-112
PICTURE TUBE:	* A63ABZ40X
UHF/VHF TUNER:	* EP93X575
RELAY CIRCUIT BOARD:	EP93X544
REMOTE CONTROL RECEIVER MODULE:	EP93X599
REMOTE CONTROL TRANSMITTER:	EP62X208
SPEAKER: 32 ohm, 4"	EP95X14
MP1B-112 TUNER CONTROL BOARD:	EP93X531
USER'S MANUAL:	29-9650-85



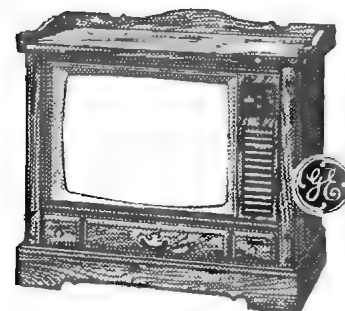
25PF6850

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

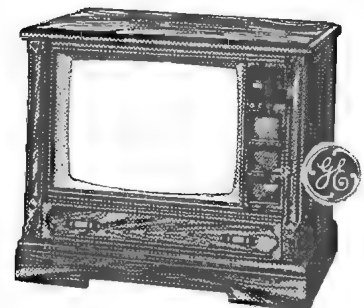
PART NO.	DESCRIPTION
EP62X222	ON/OFF, VOL., & CHANNEL SELECT



25PF6851

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP37X68	ANTENNA TERMINAL BOARD-Complete
EP98X576	CABINET BACK-Hardboard (25PF6850)
EP98X577	CABINET BACK-Hardboard (25PF6851)
EP98X578	CABINET BACK-Hardboard (25PF6852)
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
* EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP91X141	TUBE CAP-CRT Cover, Black, Plastic (25PF6850)
EP91X74	TUBE CAP-CRT Cover, Black, Plastic (25PF6851 & 25PF6852)



25PF6852

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

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CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X649	BRACKET-CRT Corner Mounting, Lexan
EP92X147	BRACKET-KeyBoard Mounting, Plastic
EP99X520	CABINET FRONT-Oak Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X129	DOOR-Controls & Speaker Cover
EP4X468	DOOR BUMPER
EP78X66	DOOR HANDLE
EP2X626	DOOR HINGE
EP89X614	ESCUTCHEON-Upper Controls, Black, Plastic
EP4X514	OVERLAY-Secondary Controls (J02)
EP1X33	RIVET-Plastic
EP3X56	SPRING-CRT Ground

MISCELLANEOUS

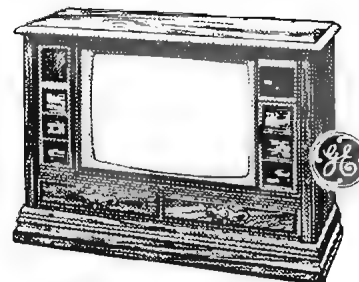
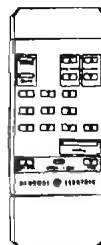
PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X85	KNOB-Decorative (order 2) (25PF6851)
EP4X121	PULL-Decorative (25PF6851)
EP4X53	PULL-Decorative (Order 2) (25PF6852)

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

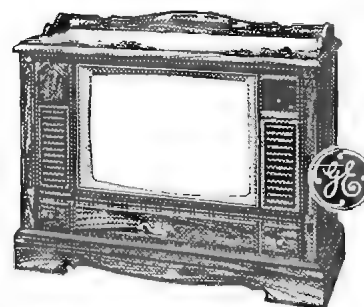
CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	MP1-112
PICTURE TUBE:	★A63ABZ40X
UHF/VHF TUNER:	★EP93X575
DECODER CIRCUIT BOARD:	EP93X623
RELAY CIRCUIT BOARD: Bare	EP93X544
REMOTE CONTROL RECEIVER MODULE:	EP93X599
REMOTE CONTROL TRANSMITTER:	EP62X207
STEREO CIRCUIT BOARD:	EP93X622
SPEAKER: 16 ohm, 4"	EP95X52
MP1-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9653-85



25PF6853

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4155	EP49X510	BASS-15K ohm, 20%
R4160	EP49X510	TREBLE-15K ohm, 20%
R4220	EP49X493	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X493	PICTURE-10K ohm, 20%, Detent
R4300	EP49X412	TINT-10K ohm, 20%
R4301	EP49X412	COLOR-10K ohm, 20%
S4002	EP39X53	SWITCH-VIR, Slide Type
S4010	EP39X53	SWITCH-Color Monitor, Slide Type
SW5008	EP39X146	SWITCH-Cable Select, Slide Type



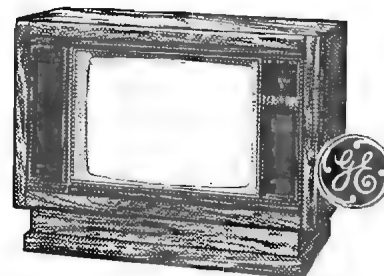
25PF6854

KEYBOARD

PART NO.	DESCRIPTION
EP62X222	ON/OFF, VOL., & CHANNEL SELECT

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In. to 75 ohms Out
EP92X154	BRACKET-Antenna Terminal Board, Plastic
EP98X581	CABINET BACK-Hardboard (25PF6853)
EP98X582	CABINET BACK-Hardboard (25PF6854)
EP98X583	CABINET BACK-Hardboard (25PF6855)



25PF6855

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any one of a receiver. The (★) beside a part in this parts list and the shaded areas of the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create shock, fire or other hazards, or excessive X-Radiation.

EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X169	COVER-Service Information, Black, Plastic
EP8X127	JACK-Phono Type
EP91X74	TUBE CAP-CRT Cover, Black, Plastic (25PF6853/256854)
EP91X141	TUBE CAP-CRT Cover, Black, Plastic (25PF6855)

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X649	BRACKET-CRT Corner Mounting, Plastic
EP92X147	BRACKET-Keyboard Mounting, Plastic
EP99X551	CABINET FRONT-Oak Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X146	DOOR-Controls & Speaker Cover (25PF6853)
EP91X147	DOOR-Controls & Speaker Cover (25PF6854)
EP91X148	DOOR-Controls & Speaker Cover (25PF6855)
EP4X468	DOOR BUMPER
EP2X626	DOOR HINGE
EP89X615	ESCUTCHEON-Upper Controls, Black, Plastic
EP41X14	PILOT LIGHT-L.E.D, Y4001, Y4003
EP1X46	RETAINER-Speaker Mounting, Fastener (4 Used)
EP1X33	RIVET-Plastic
EP34X72	SOCKET-L.E.D 's
EP3X56	SPRING-CRT Ground

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket
EP4X85	KNOB-Decorative (Order 2) (25PF6854)
EP4X188	PULL-Decorative (Order 2) (25PF6853)
EP4X193	PULL-Decorative (25PF6854)

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

CHASSIS AND ASSEMBLY PARTS LIST

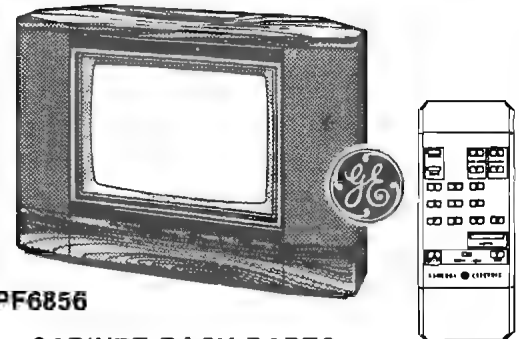
CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	MP1-112
PICTURE TUBE:	★ A63ABZ40X
UHF/VHF TUNER:	★ EP93X575
DECODER CIRCUIT BOARD:	EP93X623
RELAY CIRCUIT BOARD:	EP93X544
REMOTE CONTROL RECEIVER MODULE:	EP93X599
REMOTE CONTROL TRANSMITTER:	EP62X207
STEREO CIRCUIT BOARD:	EP93X622
TOP TUNING CIRCUIT BOARD:	EP93X615
SPEAKER: 16 ohm, 2" (2 Used)	EP95X57
SPEAKER: 16 ohm, 4" (2 Used)	EP95X52
MP1-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9656-85

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4150	EP49X492	BALANCE-15K ohm, 20%
R4155	EP49X492	BASS-15K ohm, 20%
R4160	EP49X492	TREBLE-15K ohm, 20%
R4220	EP49X499	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X499	PICTURE-10K ohm, 20%, Detent
R4300	EP49X491	TINT-10K ohm, 20%
R4301	EP49X491	COLOR-10K ohm, 20%
SW01	EP39X150	SWITCH-ON/Off
SW02	EP39X150	SWITCH-Vol Up
SW03	EP39X150	SWITCH-Vol Down
SW04	EP39X150	SWITCH-Channel Up
SW05	EP39X150	SWITCH-Channel Down
SW06	EP39X207	SWITCH-Color Monitor
SW07	EP39X207	SWITCH-Stereo On/Off
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KNOBS

PART NO.	DESCRIPTION
EP47X60	BASS, TREBLE, BALANCE
EP47X60	COLOR, TINT, BRIGHTNESS, & PICTURE
EP47X61	COLOR MONITOR & STEREO
EP47X78	ON/OFF, VOL.UP/DOWN & CHANNEL UP/DOWN



25PF6856

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP92X154	BRACKET-Antenna Terminal Board
EP98X584	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP8X127	JACK-Phono Type J01 & J02

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X594	BRACKET-CRT Corner Mounting, Plastic
EP99X552	CABINET FRONT-Black, Plastic
EP41X151	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X143	DOOR-Top Tuning Access, Plastic
EP2X619	DOOR ARM ASSEMBLY
EP2X596	DOOR CATCH
EP2X593	DOOR HINGES
EP2X644	DOOR LATCH
EP2X656	DOOR PIN
EP54X262	OVERLAY-Top Tuning
EP4X512	OVERLAY-Secondary Controls
EP41X14	PILOT LIGHT-L.E.D., Bilingual, Red, TY02
EP14X14	PILOT LIGHT-L.E.D., Stereo, Red, TY03
EP1X46	RETAINER-Speaker Mounting, Fastener (12 Used)
EP3X56	SPRING-CRT Ground
EP3X54	SWITCH PAD-Foam
EP4X481	WINDOW-Sensor

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket

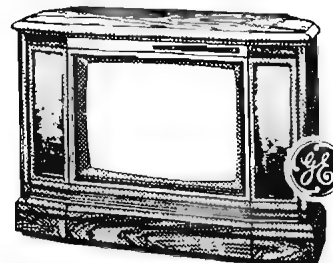
BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

SERVICE INFORMATION

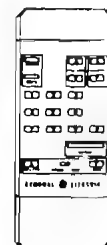
PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	25" PC-J
TUNING SYSTEM:	MP1-112
PICTURE TUBE:	★A63ABZ40X
UHF/VHF TUNER:	★EP93X575
DECORDER CIRCUIT BOARD:	EP93X623
RELAY CIRCUIT BOARD:	EP93X544
REMOTE CONTROL RECEIVER MODULE:	EP93X599
REMOTE CONTROL TRANSMITTER:	EP62X207
STEREO CIRCUIT BOARD:	EP93X622
TOP TUNING CIRCUIT BOARD:	EP93X615
SPEAKER: 16 ohm, 2" (2 Used)	EP95X57
SPEAKER: 16 ohm, 4" (2 Used)	EP95X52
MP1-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9656-85



25PF6857



CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4150	EP49X492	BALANCE-15K ohm, 20%
R4155	EP49X492	BASS-15K ohm, 20%
R4160	EP49X492	TREBLE-15K ohm, 20%
R4220	EP49X499	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X499	PICTURE-10K ohm, 20%, Detent
R4300	EP49X491	TINT-10K ohm, 20%
R4301	EP49X491	COLOR-10K ohm, 20%
SW01	EP39X150	SWITCH-ON/Off
SW02	EP39X150	SWITCH-Vol Up
SW03	EP39X150	SWITCH-Vol Down
SW04	EP39X150	SWITCH-Channel Up
SW05	EP39X150	SWITCH-Channel Down
SW06	EP39X207	SWITCH-Color Monitor
SW07	EP39X207	SWITCH-Stereo On/Off
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KNOBS

PART NO.	DESCRIPTION
EP47X60	BALANCE, TREBLE & BASS
EP47X60	COLOR, TINT, BRIGHTNESS, & PICTURE
EP47X61	COLOR MONITOR, & STEREO
EP47X78	ON/OFF, VOL. UP/DOWN, & CHANNEL UP/DOWN

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP90X40	ADAPTOR-300 ohms In, to 75 ohms Out
EP92X154	BRACKET-Antenna Terminal Board
EP98X584	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic
EP8X127	JACK-Phono Type, J01 & J02

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP2X594	BRACKET-CRT Corner Mounting, Lexan
EP99X552	CABINET FRONT-Black, Plastic
EP41X151	CHANNEL NUMBER READOUT DISPLAY-Green
EP91X154	DOOR-Top Tuning
EP2X619	DOOR ARM ASSEMBLY
EP2X596	DOOR CATCH
EP2X593	DOOR HINGES
EP2X644	DOOR LATCH
EP2X656	DOOR PIN
EP54X266	OVERLAY-Top Tuning, Black, Lexan
EP4X512	OVERLAY-Secondary Controls
EP1X46	RETAINER-Speaker Mounting (12 Used)
EP3X56	SPRING-CRT Ground
EP3X54	SWITCH PAD-Foam
EP4X481	WINDOW-Channel Readout

MISCELLANEOUS

PART NO.	DESCRIPTION
EP68X7	CASTER-W/Socket

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

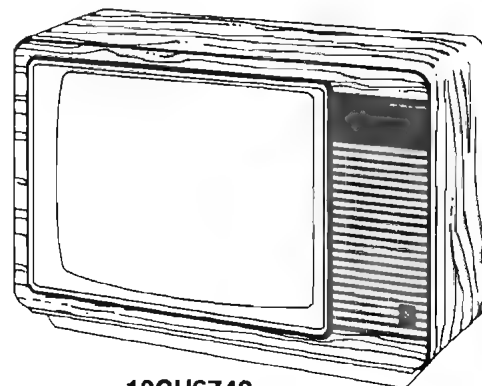
Product safety should be considered when component replacement is made in any type of receiver. The (*) designates a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact designated parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create shock, fire or other hazards, or excessive X-Radiation.

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	LMP-112
PICTURE TUBE:	★A48ACE40X
UHF/VHF TUNER:	★EP93X575
REMOTE CONTROL RECEIVER MODULE:	EP93X617
REMOTE CONTROL TRANSMITTER:	EP62X209
REMOTE POWER RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm 4"	EP95X14
LMP-112 TUNER CONTROL BOARD:	EP93X531
USER'S MANUAL:	29-9209-85



19CH6743

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
R5198	EP49X475	VOL. LIMITER-50K ohm, 20%
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X67	ANTENNA TERMINAL BOARD-Complete
EP98X477	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

KEYBOARD

PART NO.	DESCRIPTION
EP62X174	ON/OFF, VOL., & CHANNEL SELECT

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X106	BRACKET-KeyBoard Mounting, Plastic
EP99X569	CABINET FRONT-Oak Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X587	ESCUTCHEON-Primary Controls, Plastic
EP4X448	FIDDLE FREE COVER-Thumbwheel
EP89X505	GRILLE-Speaker
EP4X291	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground
EP4X549	WINDOW-Channel Readout, Plastic

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

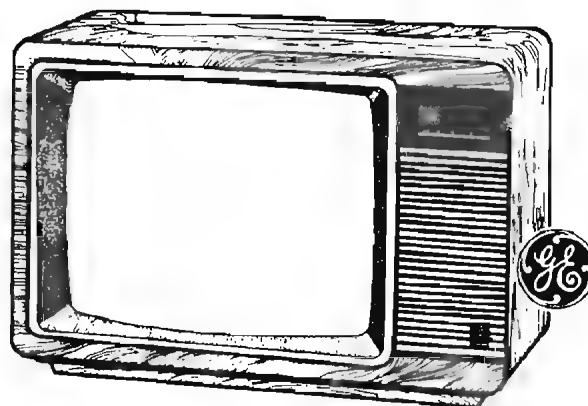
When the consumer replaces a component in any area of a receiver, the (★) beside a part in the parts list and the shaded areas of the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used in replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create shock, fire or other hazards, or excessive wear.

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	LMP2-112
PICTURE TUBE:	★ A48ACE40X
UHF/VHF TUNER:	★ EP93X575
REMOTE CONTROL RECEIVER MODULE:	EP93X617
REMOTE CONTROL TRANSMITTER:	EP62X209
REMOTE POWER RELAY CIRCUIT BOARD:	EP93X544
SPEAKER: 32 ohm, 4"	EP95X14
LMP2-112 TUNER CONTROL BOARD:	EP93X531
USER'S MANUAL:	29-9249-85



19CC6749

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
R4220	EP49X507	BRIGHTNESS-10K ohm, 20%
R4260	EP49X507	PICTURE-10K ohm, 20%
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
R5198	EP49X475	VOL. LIMITER-50K ohm, 20%
SW5008	EP39X146	SWITCH-Cable Select, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X174	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Thumbwheel

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X67	ANTENNA TERMINAL BOARD-Complete
EP98X477	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★ EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X106	BRACKET-KeyBoard Mounting, Plastic
EP99X557	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP89X587	ESCUTCHEON-Upper Controls, Black, Plastic
EP4X448	FIDDLE FREE COVER-Thumbwheel
EP89X480	GRILLE-Speaker
EP93X291	OVERLAY-Secondary Control, Plastic
EP4X420	OVERLAY-Nameplate
EP3X56	SPRING-CRT Ground
EP4X549	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

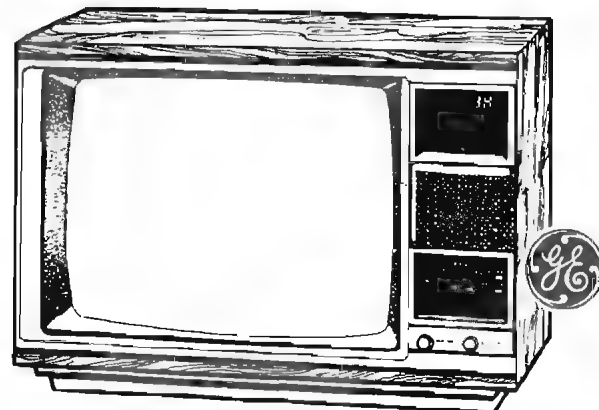
Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

SERVICE INFORMATION

PC CHASSIS MODEL PAGE

CHASSIS AND ASSEMBLY PARTS LIST

CHASSIS TYPE:	19" PC-J
TUNING SYSTEM:	MP1-112
PICTURE TUBE:	★A48ACE40X
UHF/VHF TUNER:	★EP93X575
BATTERY-Nickel Cadmium	EP58X3
RADIO CIRCUIT BOARD:	EP93X547
RADIO POWER SUPPLY/KEYBOARD BOARD:	EP93X549
RELAY CIRCUIT BOARD:	EP93X594
REMOTE CONTROL RECEIVER MODULE:	EP93X617
REMOTE CONTROL TRANSMITTER:	EP62X206
SPEAKER: 32 ohm, 4"	EP95X14
MP1-112 TUNER CONTROL BOARD:	EP93X541
USER'S MANUAL:	29-9239-85



19CC6753

CONTROLS

REF. NO.	PART NO.	DESCRIPTION
KSW01	EP39X207	SWITCH-Radio/TV Select, Push & Lock
KSW02	EP39X207	SWITCH-On/Off Clock Alarm, Push & Lock
KSW03	EP39X206	SWITCH-Clock Alarm Set, Push
KSW04	EP39X206	SWITCH-Clock Fast, Push
KSW05	EP39X206	SWITCH-Clock Slow, Push
KSW06	EP39X206	SWITCH-Clock Time Set, Push
R4220	EP49X507	BRIGHTN ESS-10K ohm, 20%, Detent
R4260	EP49X507	PICTURE-10K ohm, 20%, Detent
R4300	EP49X506	TINT-10K ohm, 20%
R4301	EP49X506	COLOR-10K ohm, 20%
R5198		DUAL POT-TV. Vol. Limiter, 25K
	EP49X498	ohm, 30%
R5199		Radio Vol. Limiter, 100K ohm, 30%
S1	EP39X212	SWITCH-AM/FM, Slide Type

KEYBOARD

PART NO.	DESCRIPTION
EP62X221	ON/OFF, VOL., & CHANNEL SELECT

KNOBS

PART NO.	DESCRIPTION
EP47X65	CLOCK-Alarm Set, Time Set, Fast & Slow
EP43X460	COLOR, TINT, BRIGHTNESS, & PICTURE-Black
EP43X461	RADIO-Volume, Black, W/Retainer
EP43X462	RADIO-Tuning, Black
EP47X64	RADIO-Radio/TV Select, Radio On/Off

CABINET BACK PARTS

PART NO.	DESCRIPTION
EP37X72	ANTENNA TERMINAL BOARD-Complete
EP98X543	CABINET BACK-Black, Plastic
EP2X540	CLEAT-Power Cord Storage
ES3X29	CLIP-Antenna Terminal
★EP66X19	CORD-AC Power, Polarized
EP4X175	COVER-Service Information, Black, Plastic

CABINET FRONT PARTS

PART NO.	DESCRIPTION
EP92X133	BRACKET-Keyboard Mounting, Plastic
EP92X122	BRACKET-Radio Support, Plastic
EP99X512	CABINET FRONT-Cherry Woodgrain, Plastic
EP41X140	CHANNEL NUMBER READOUT DISPLAY-Green
EP41X147	CLOCK TIMER READOUT
EP4X495	DIAL SCALE-AM/FM Radio Readout Lexan
EP4X455	DIAL SCALE-AM/FM Radio Readout Lexan (Use On Some Units)
EP89X601	ESCUTCHEON-Radio/Clock, Black, Lexan
EP4X448	FIDDLE FREE COVER-Thumbwheel
EP2X612	GEAR-Radio Tuning, Plastic
EP89X577	GRILLE-Speaker
EP4X291	OVERLAY-Secondary Controls, Inlay
EP4X420	OVERLAY-Nameplate
EP2X613	POINTER-Station Indicator, Lexan
EP3X56	SPRING-CRT Ground
EP4X556	WINDOW-Channel Readout, Plastic

BEFORE APPLYING POWER TO THIS RECEIVER, READ THE SAFETY INFORMATION PAGE.

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create shock, fire or other hazards, or excessive X-Radiation.



TELEVISION

PC CHASSIS

SERVICE INFORMATION

ELECTRONIC AND MECHANICAL TUNERS INDEX

SCHEMATIC DIAGRAMS

- Electronic U/V Tuners

EP93X334	2-1
EP93X387	2-3
EP93X415	2-5
EP93X502	2-5A
EP93X539	2-6
EP93X575	2-6A

- Mechanical Tuners

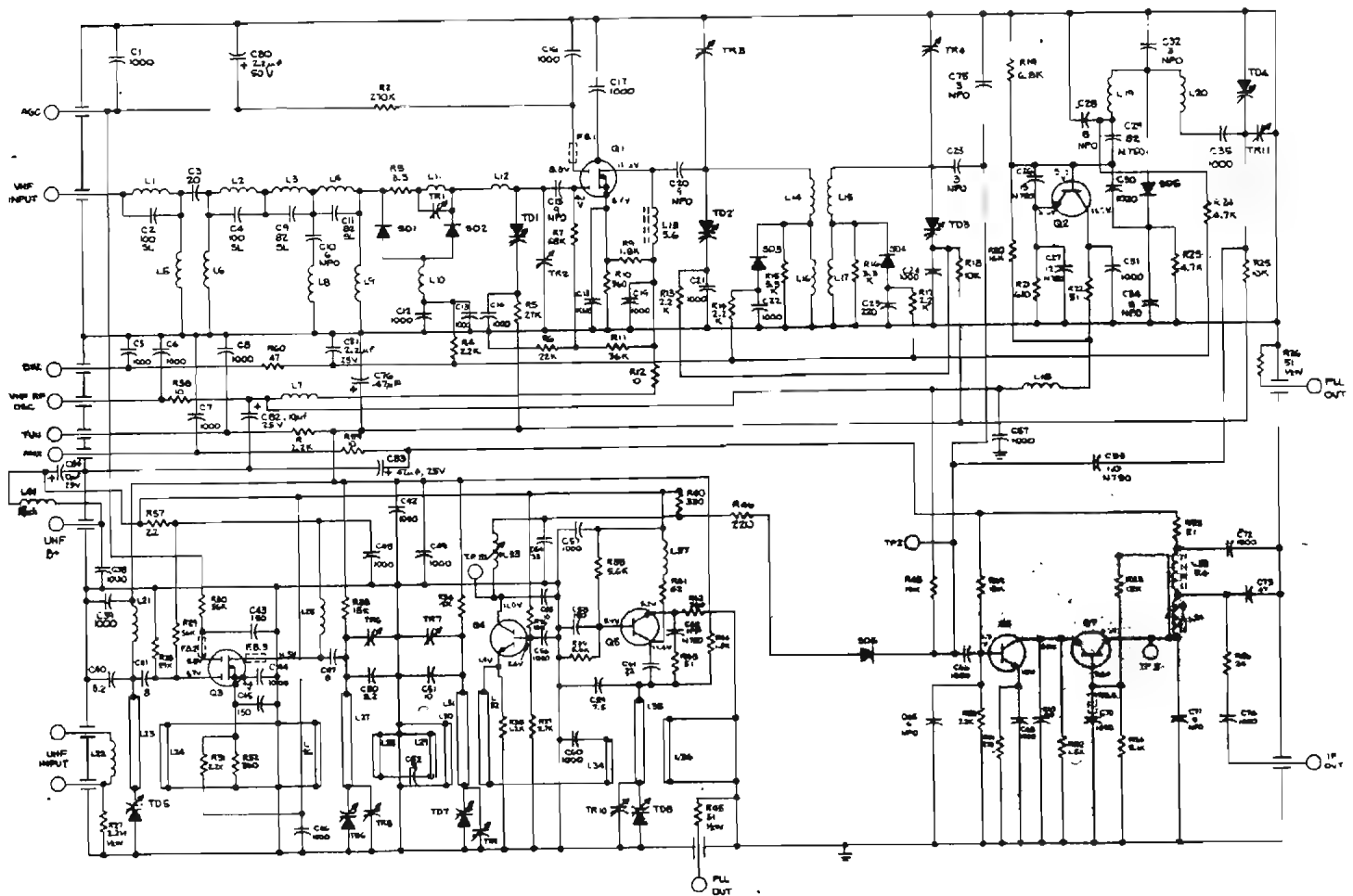
EP86X83	2-7
EP85X75	2-8
EP85X76	2-9

GENERAL ELECTRIC

TELEVISION

SERVICE INFORMATION

TELEVISION
PC CHASSIS
UHF/VHF TUNER
EP93X334



UHF/VHF TUNER SCHEMATIC DIAGRAM EP93X334

REPLACEMENT PARTS LIST

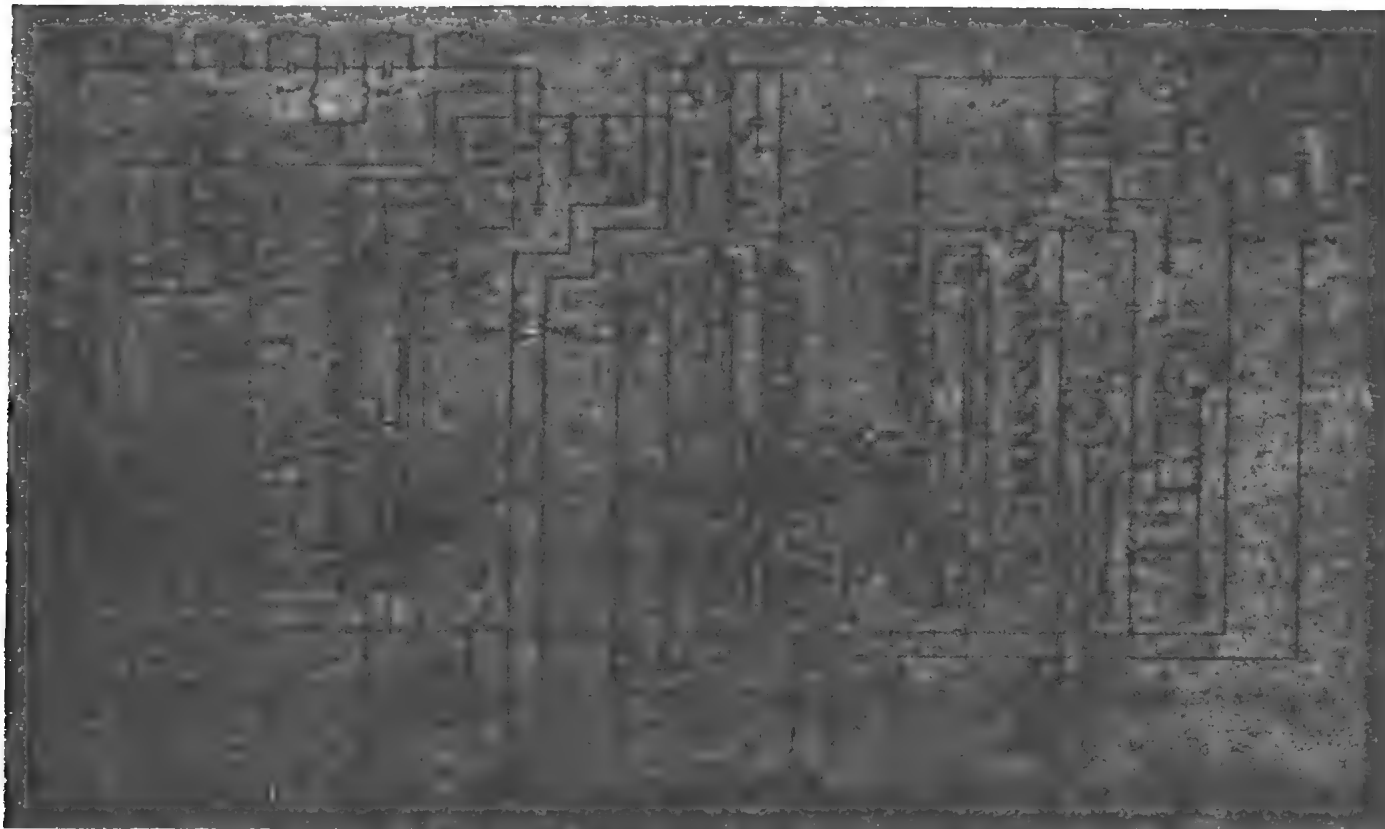
REF. NO.	PART NO.	DESCRIPTION
UHF/VHF TUNER EP93X334		
CAPACITORS		
C80	EP31X80	2.2uf, 50V, Electrolytic
C81	EP31X80	2.2uf, 25V, Electrolytic
C82, C83	EP31X45	47uf, 25V, Electrolytic
C84	EP31X35	10uf, 35V, Electrolytic
COILS		
L41	EP36X136	Coil (15uh) Choke
MISCELLANEOUS		
PG203/RL203	EP8X44	Connector, 6 pos. (Inc. Pins)

NOTE: FOR REPAIRS REQUIRING PARTS OTHER THAN THOSE LISTED, ORDER A COMPLETE REPLACEMENT TUNER.

GENERAL ELECTRIC

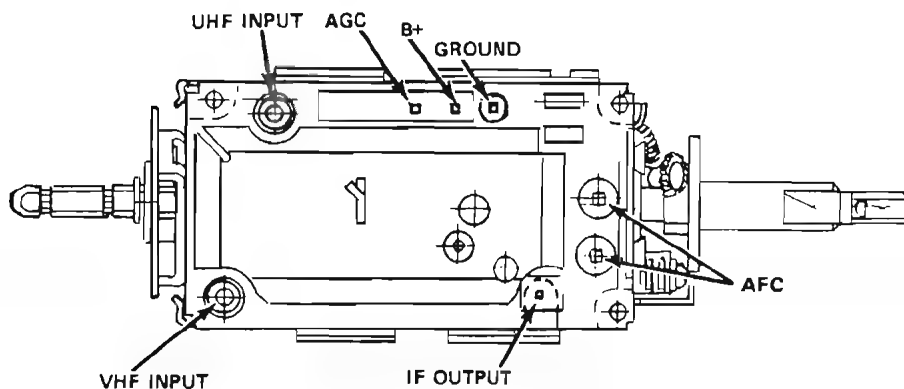
TELEVISION

SERVICE INFORMATION



VHF TUNER (EP86X83) SCHEMATIC DIAGRAM

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PLETE REPLACEMENT TUNER.



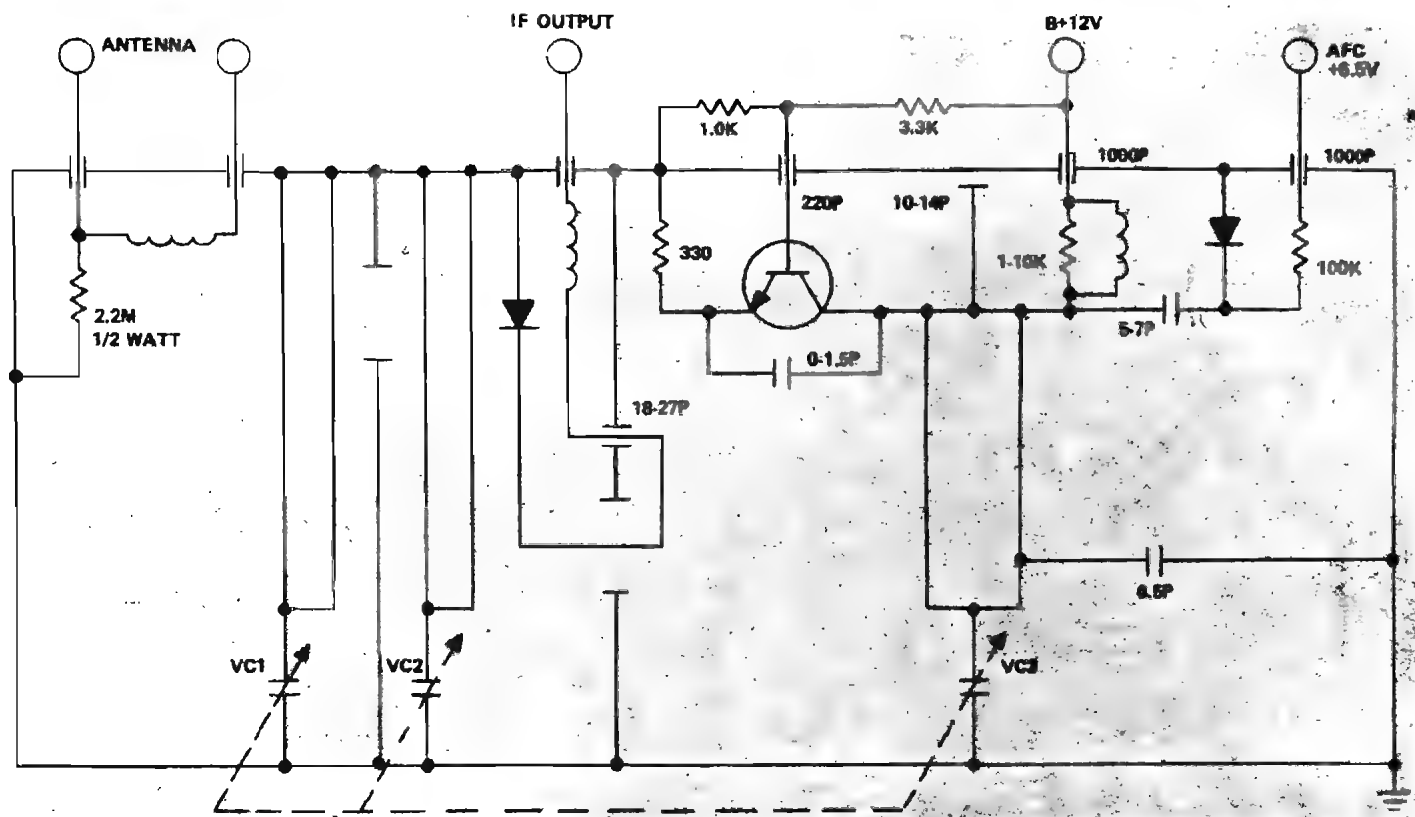
TUNER TOP VIEW

**UHF TUNER
EP85X75**

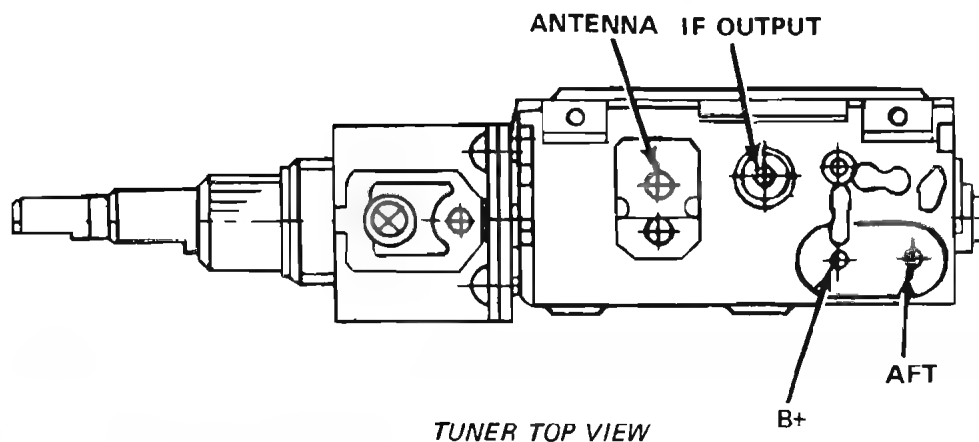
GENERAL ELECTRIC

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SERVICE INFORMATION


UHF TUNER (EP85X75) SCHEMATIC DIAGRAM

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TUNER TOP VIEW

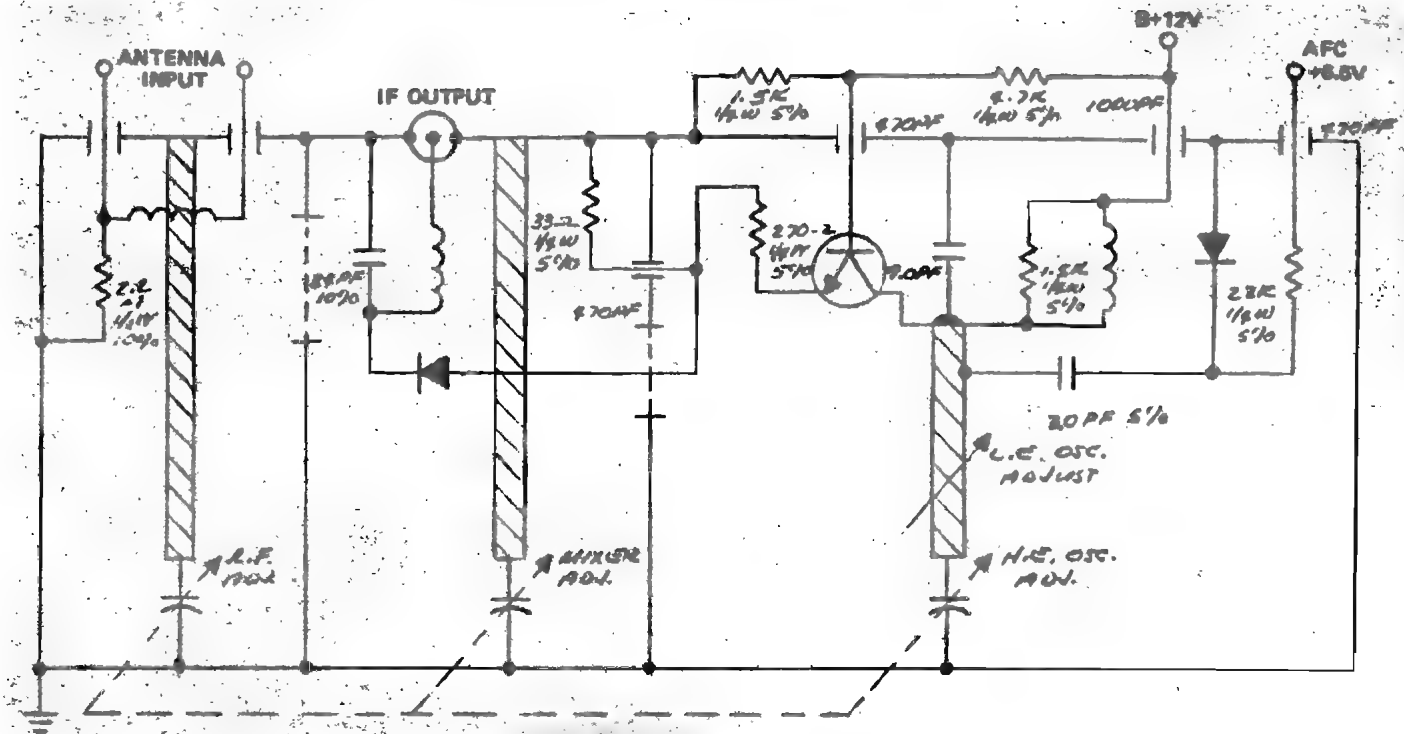
PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. (A) DENOTES A PART IN THE PARTS LIST AND THE SHAD-
ED AREAS OF THE SCHEMATIC DIAGRAM DENOTES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOG
PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (A) IN THE PARTS LIST AND THE SHAD-ED AREAS ON THE SCHEMATIC DIAGRAM.
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK,
FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

GENERAL ELECTRIC

TELEVISION

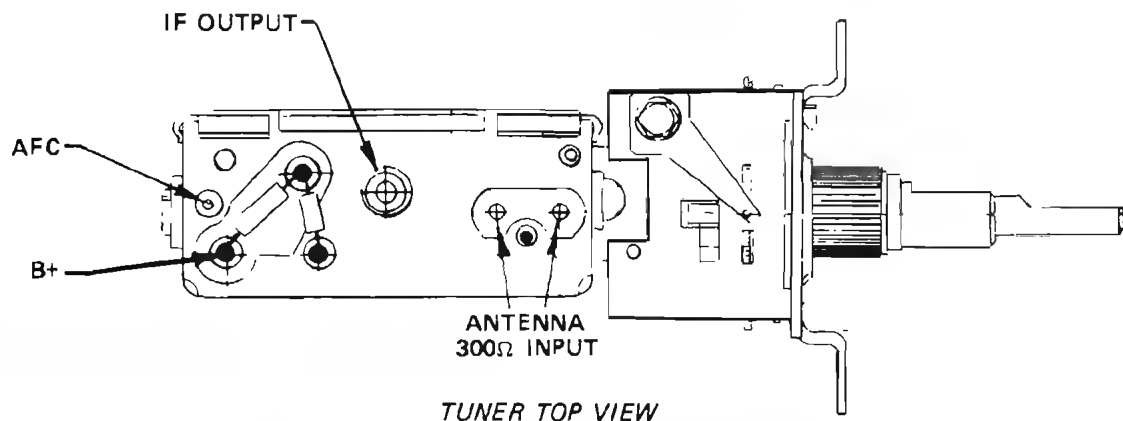
SERVICE INFORMATION

UHF TUNER
EP85X76



UHF TUNER (EP85X76) SCHEMATIC DIAGRAM

THIS SCHEMATIC DIAGRAM IS FURNISHED FOR REFERENCE ONLY.
FOR REPAIRS REQUIRING REPLACEMENT PARTS ORDER A COM-
PLETE REPLACEMENT TUNER.



TUNER TOP VIEW

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (R) DENOTES A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATE COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (R) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY (SERVICE INFORMATION) MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE EXPOSURE.



TELEVISION
PC CHASSIS

TELEVISION

SERVICE INFORMATION

IMPORTANT

SAFETY INFORMATION

THIS RECEIVER USES A LINE-CONNECTED BRIDGE RECTIFIER. THE CHASSIS IS NOT DIRECTLY CONNECTED TO GROUND. INSTEAD, IT IS ELEVATED 70VAC ABOVE EARTH GROUND. THEREFORE, THERE IS ALWAYS A HAZARDOUS VOLTAGE BETWEEN THE CHASSIS AND EARTH GROUND. ALWAYS USE AN ISOLATION TRANSFORMER TO POWER THE RECEIVER WHEN SERVICING.

SHATTER-PROOF SAFETY GLASSES SHOULD ALWAYS BE WORN WHEN WORKING AROUND AN EXPOSED PICTURE TUBE. BEFORE HANDLING THE TUBE, THOROUGHLY DISCHARGE THE SECOND ANODE TO THE OUTER AQUADAG COATING OF THE PICTURE TUBE. REPLACEMENT PICTURE TUBES MUST HAVE INTEGRAL X-RAY AND IMPLOSION PROTECTION. REPLACE ONLY WITH TUBE OF SAME TYPE NUMBER.

CAUTION: X-RAYS

AS PRECAUTIONS AGAINST EMISSION OF X-RAYS IN EXCESS OF THE FEDERAL STANDARD, NEVER APPLY POWER TO THE RECEIVER UNTIL THE FOLLOWING CONDITIONS HAVE BEEN VERIFIED.

1. ALL FACTORY-INSTALLED SHIELDS ARE IN PLACE.
2. THE PICTURE TUBE IS A FACTORY SPECIFIED TYPE ONLY.
3. THE LINE INPUT VOLTAGE DOES NOT EXCEED 130 VOLTS AC.
4. THE HIGH VOLTAGE DOES NOT EXCEED 29.0KV (30KV, 25PC) WITH BRIGHTNESS AND CONTRAST CONTROLS AT MINIMUM (MINIMUM ILLUMINATION ON PICTURE TUBE SCREEN) AT 120 VAC.

NORMAL HIGH VOLTAGE IS 26.8KV (28.5KV, 25PC) AT ZERO BEAM CURRENT (BLACK PICTURE) WITH 120 VAC LINE INPUT. HIGH VOLTAGE IS NOT ADJUSTABLE.

"CAUTION - HIGH VOLTAGE SHUT DOWN MODULE REPLACEMENT

TO PROVIDE PROPER X-RADIATION PROTECTION IT IS NECESSARY THAT ALL COMPONENTS IN THE HVSD BE MATCHED AND TESTED AS A COMPLETE UNIT. NO INDIVIDUAL COMPONENT CAN BE SAFELY REPAIRED OR REPLACED. THEREFORE, IF A MALFUNCTION IS SUSPECTED, REPLACE ONLY WITH ENTIRE UNIT REPL. PART # EP62X154 (EP62X167, 25PC).

116 VOLT B+ ADJUSTMENT

THE SETTING OF THE +116 VOLT ADJUSTMENT (R953) DIRECTLY AFFECTS HIGH VOLTAGE. SEE DETAILED INSTRUCTIONS ON PAGE (PC) 3-3 BEFORE ADJUSTING B+.

(continued)

PC CHASSIS

AFTER SERVICING THE RECEIVER, PERFORM THE FOLLOWING SAFETY CHECK:
BEFORE INSTALLING THE CABINET BACK:

INSPECT LEAD DRESS:

1. No lead should be against a power resistor (2 watts or more)
2. High voltage connections must have no sharp points
3. The insulation on antenna leads should not be damaged. The leads should not be dressed close to any high voltage point or AC line connection
4. The AC wiring should be inspected for damaged insulation, frayed wires, pinched leads, or cold solder connections
5. Inspect the AC line cord for broken or damaged insulation

MAKE RESISTANCE CHECK:

1. Check for DC continuity (0 ohms) from the narrow blade of the power cord to the ON/OFF switch in the ON position

AFTER INSTALLING THE CABINET BACK:

- A. Connect the VHF antenna to the VHF antenna terminals
- B. Do not plug the receiver into a power outlet. Connect both blades of the power plug together and place the ON-OFF switch in the ON position
- C. Measure between the shorted power plug and the following points. Readings should be as indicated

TEST POINT	MIN. OHMS	MAX. OHMS
ANTENNA TERMINALS – UHF	600K	5.2 MEGS
ANTENNA TERMINALS – VHF	600K	5.2 MEGS
CABINET BACK SCREWS	OPEN CIRCUIT	
ALL METAL CONTROL OR CHANNEL SELECTOR SHAFTS (WITH KNOBS REMOVED)	OPEN CIRCUIT	
ALL NON-REMOVABLE METALLIC KNOBS, PUSH BUTTONS, EARPHONE JACKS, ETC.	OPEN CIRCUIT	
METAL ESCUTCHEONS AND OVERLAYS	OPEN CIRCUIT	

IF ANY READING IS OUTSIDE LIMITS SPECIFIED, THE CAUSE SHOULD BE IDENTIFIED AND CORRECTED BEFORE OPERATING THE RECEIVER.

ELECTRICAL SPECIFICATIONS

Power Input Rating:	Frequency Voltage	60 cycles 108-128 volts
Operational Frequencies:	Picture I-F Carrier Sound I-F Carrier Color Sub-Carrier Inter-carrier Sound Take-Off	45.75MHz 41.25MHz (Nominal) 42.17MHz 4.5MHz
Audio Power Output:	Average (25KHz Dev.)	1.5 Watt @10% Distortion

SERVICE ADJUSTMENTS

The receivers covered by this service information are factory adjusted before shipment and generally require only slight adjustment.

After applying power to the receiver, adjust the controls for a black and white picture. Observe the picture for good black and white reproduction over the entire screen area. No objectionable color shading should be evident. If color shading is evident, degauss, purify, and converge the receiver.

If adjustment is required, allow at least 20 minutes of warm up time prior to final adjustment.

DEMAGNETIZING

The receivers are equipped with an automatic degaussing circuit which demagnetizes the picture tube each time the receiver is turned on after having been off for at least 5 minutes.

CIRCUIT PROTECTION

The entire receiver is protected by a 4 Amp fuse (F901) connected in the A.C. power line and a 1.25 Amp B+ fuse (F903). The horizontal output circuit is also protected by the B+ fuse (F903).

Protection against excessive high voltage is provided by the High Voltage Shutdown circuit. This circuit senses the amplitude of a pulse from pin 15 of the High Voltage Transformer (T701). The amplitude of this pulse is directly related to the high voltage. An increase in pulse amplitude, indicating an increase in high voltage, causes SCR990 to conduct which in turn shorts the supply for the horizontal oscillator to chassis ground through Y991. This "kills" the B+ supply for the sweep oscillator (IC501), shutting down the horizontal sweep and high voltage circuits. The Shutdown circuit will remain activated until the receiver is switched OFF for 5 to 10 seconds before the receiver will reset.

B+(116V) REGULATOR ADJUSTMENT

The 116V regulated B+ voltage is important to the operation of the receiver because it regulates the horizontal output section which supplies all the secondary DC supply voltages used throughout the receiver.

To assure continued product safety and regulatory compliance, it is very important that the following procedure is completed each time the 116V B+ regulator circuit is serviced:

1. If any of the critical parts listed below are replaced, start at Step 2, otherwise, start at Step 3:

REF. NO.	PART NO.	DESCRIPTION
Y951	EP16X19	Zener 5.6V \pm 3%
Y961	EP16X27	Diode
R951	EP14X230	68K \pm 2% Metal Oxide
R952	Common	1.8M \pm 5% Carbon Film
R955	EP14X252	3.9K \pm 2% Carbon Film

2. Measure 116V B+ at F903 at zero brightness condition preferably using a digital voltmeter (at least 1% accuracy) or a mirrored scale meter with 3% accuracy. Line voltage is not critical but should be between 108 and 128 volts. Perform brightness range and low light adjustment procedure (see Gray Scale and Brightness Centering section) if zero brightness cannot be achieved. This step is very important for the proper setting of B+. Allow 10 minute warm-up.

3. Adjust R953 (REG. ADJ.) for 116V \pm 0.5V if necessary.
4. If the B+ voltage cannot be adjusted to 116 \pm 0.5V, the regulator circuit requires service and the above procedure must be repeated after performing the required service.

HIGH VOLTAGE SHUTDOWN CIRCUIT CHECK

PERFORM WHENEVER HIGH VOLTAGE CIRCUITRY OR POWER SUPPLY BOARD IS SERVICED.

1. With Brite and Picture controls set at minimum, Pin 1 (HVSD TEST) to ground should read +93 to +99VDC.
2. Set Brite and Picture controls to maximum and measure DC voltage at Pin 4 (HVSD TEST) to ground. The voltage should be between -2.3 and -3.0 volts (-1.2 and -1.7 for 19PC-B01 and 25PC-A01).
3. Short Pin 1 to Pin 3 (HVSD Test). High voltage must shutdown, and stay down after short is removed.
4. Remove short, switch receiver OFF and then back ON.
5. Set should operate normally.

NOTE: THE CAUSE FOR ANY DEVIATIONS FROM NORMAL NOTED IN STEPS 1, 2 and 3 ABOVE MUST BE IDENTIFIED AND CORRECTED BEFORE OPERATING THE RECEIVER.

HORIZONTAL HOLD

Adjust the Horizontal Hold control (R505) for a stationary picture. For more accurate adjustment, short TP501 to TP502, and adjust the Horizontal Hold control (R505) so that the picture floats slowly across the screen. Remove short between TP501 and TP502.

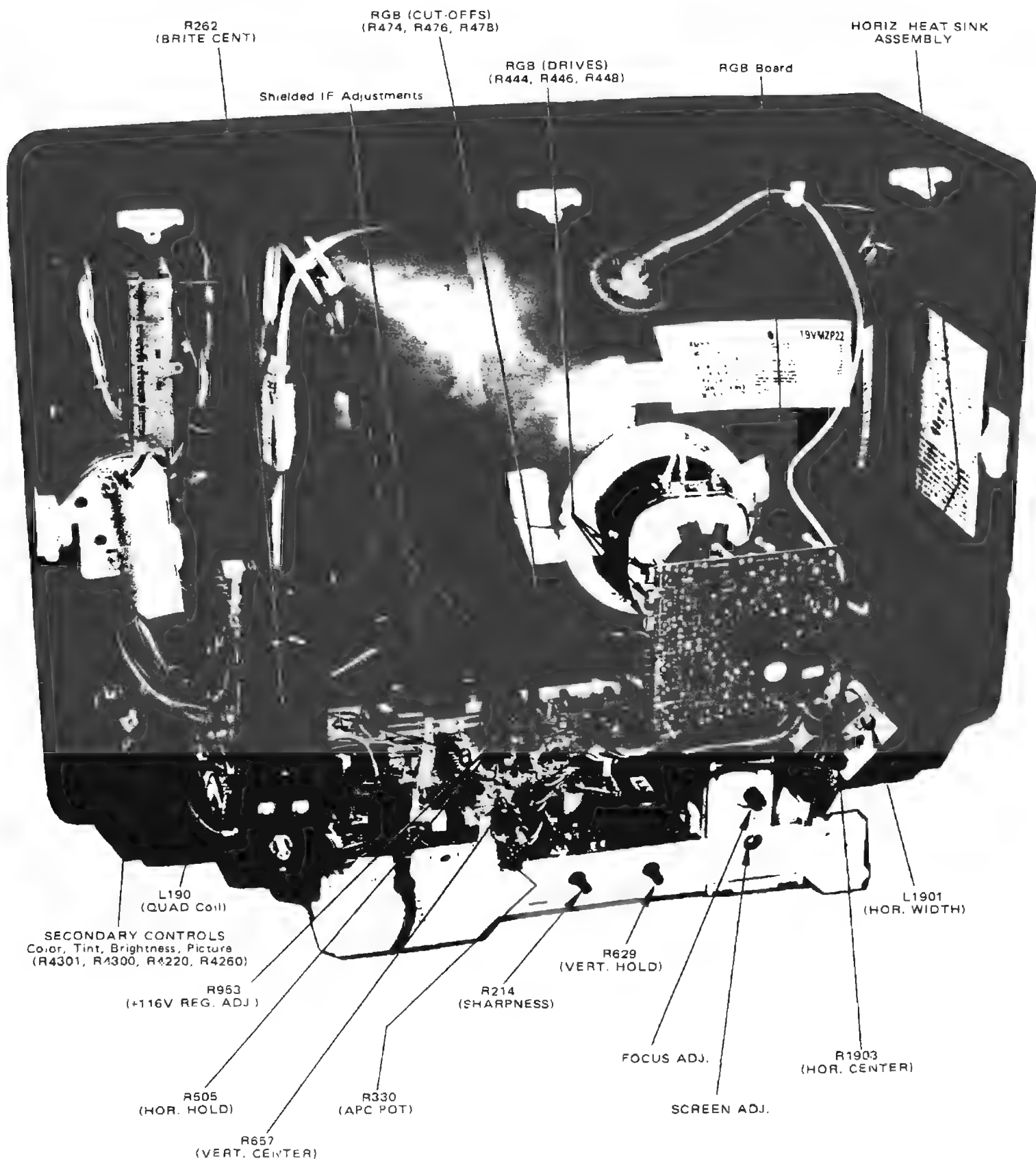
HORIZONTAL CENTERING

With cabinet back removed, center the raster horizontally by adjusting the Horizontal Centering control (R1903).

VERTICAL SIZE AND CENTERING

Adjust the Vertical Size control (R619) so that the raster overscans the screen by about 1/2 inch when operating at nominal (120VAC) line voltage. With cabinet back removed, center the raster vertically by adjusting the Vertical Centering control (R657).

PC CHASSIS
SERVICE ADJUSTMENTS (Cont.)



PC CHASSIS SERVICE ADJUSTMENTS

SERVICE ADJUSTMENTS (Cont.)

HIGH VOLTAGE CHECK

1. Remove cabinet back.
2. Operate receiver for at least 15 minutes at 120 VAC line with strong air signal or test signal properly tuned in.
3. Rotate Brightness control fully CCW. Before proceeding perform B+ 116V regulator adjustment, if necessary.
4. Connect an accurate high voltage meter to CRT anode. Reading should be between 26.0 and 28.5KV.

If correct reading cannot be obtained, check horizontal output circuitry for malfunctioning components.

FOCUS

Adjust the Focus control for maximum over-all definition and fine picture detail with Brightness and Picture (contrast) controls set at normal viewing levels.

SHARPNESS CONTROL (R214)

Adjust the Sharpness control to obtain a pleasing picture. The full clockwise position gives most sharpness. A weak or snowy picture can sometimes be improved by adjusting to the full counterwise position.

VHF AND UHF FINE TUNING

Correct Fine Tuning adjustment is more critical for color than for monochrome reception. If Fine Tuning is mis-adjusted for a color program, the picture may not be reproduced in color or may exhibit incorrect color. Automatic features depend on correct Fine Tuning. In order to accomplish Fine Tuning, the Fine Tuning knobs must be depressed to engage the drive mechanism and the AFC Defeat switches.

NOTE: This procedure not applicable to models equipped with electronic tuning.

APC ADJUSTMENT (R330)

APC is factory pre-set, field adjustment is not normally required. However, if the "pot seal" has been broken and misadjustment has occurred, re-adjustment is as follows:

1. Tune in a channel with a strong color signal.
2. Place a 0.01 uF capacitor across TP300 and TP301.
3. Place a 0.01 uF capacitor across TP302 and TP303.
4. Adjust APC control (R330) until color on the screen stops fluttering (zero beat)
5. Remove the 0.01 uF capacitors.

COLOR PURITY ADJUSTMENT

For best results, it is recommended that the Purity adjustment be made in the final receiver location. If the receiver will be moved, perform this adjustment with receiver facing North. The receiver must have been operating 10 minutes prior to performing this procedure and the faceplate of the CRT must be at room temperature.

The receiver is equipped with an automatic degaussing circuit. However, if the CRT shadow mask has become excessively magnetized, it may be necessary to degauss it with a manual coil. Do not switch the coil OFF while the raster shows any effect from the coil.

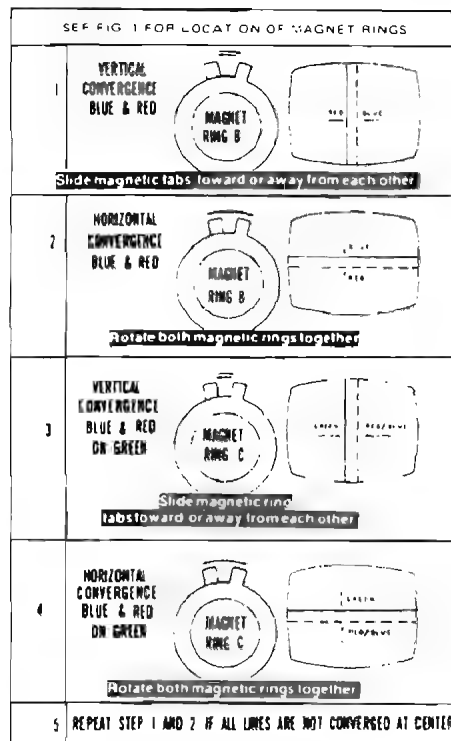
The following (Step) procedure is recommended while using the pattern produced by a Dot/Bar Generator.

STEP #1 - Purity

1. Degauss and allow receiver to warm up at least 10 minutes before adjusting for purity. The convergence/purity magnetic assembly should be secured 1½ inch from the tip of the CRT pins (See Figure 1). The convergence at the picture center should be set approximately correct. Go to Step #2 (STATIC CONVERGENCE) and perform, if necessary, before proceeding.
2. Using a blank raster, Turn Blue (R478), Red (R474), and Green (R476) Cutoff controls fully CCW. Turn brightness fully CW. Adjust Brite Center (R262), until raster is just cut off. Adjust Red Cutoff (R474) control CW for red raster.
3. Slide deflection yoke back. Set purity rings so that the squared tab and the rounded tab are together and horizontal. Separate the rings to center the red bar (See Figure 2). Do not rotate the rings as this will cause a vertical movement of the red bar.
4. Slide the deflection yoke forward to obtain a pure red field.
5. Turn Red Cutoff (R474) control fully CCW, and, one at a time, turn up the Blue (R478) and Green Cutoff (R476) controls to check the purity of the blue and green fields. If necessary, repeat adjustments for best compromise. Secure the yoke clamp.

STEP #2 — STATIC CONVERGENCE

GREEN GUN IS THE CENTER GUN. CONVERGE THE RED AND BLUE. THEN CONVERGE RED AND BLUE ON GREEN. USE A CROSBATCH PATTERN.

**STATIC CONVERGENCE CHART**

PC CHASSIS

SERVICE ADJUSTMENTS (Cont.)

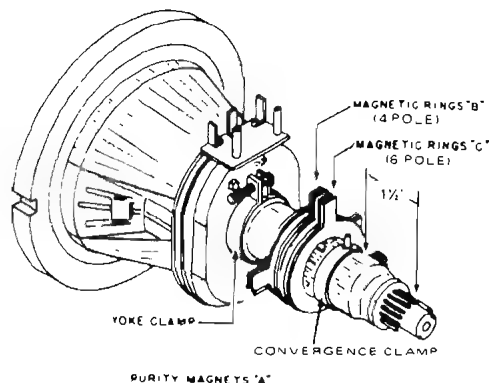


FIGURE 1

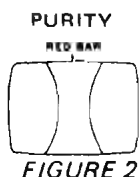


FIGURE 2

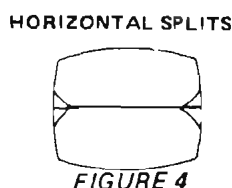


FIGURE 4

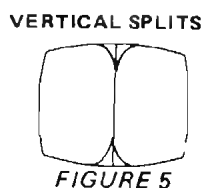


FIGURE 5

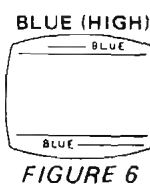


FIGURE 6

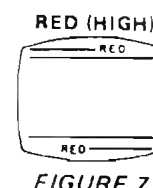


FIGURE 7

WEDGE POSITIONS

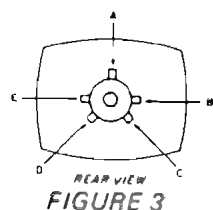


FIGURE 3

DYNAMIC CONVERGENCE ILLUSTRATIONS

STEP #3 - DYNAMIC CONVERGENCE

1. Use a crosshatch pattern.
2. If it is necessary to correct for horizontal splits (See Figure 4), insert a wedge between the CRT and yoke at position A (Figure 3).
3. If it is necessary to correct for vertical splits (Figure 5) readjust the wedge slightly to the left or right.
4. For edge convergence insert a wedge in position B or E (Figure 3). If the blue is high (Figure 6) insert a wedge in position B. If the red is high (Figure 7) insert a wedge in position E.
5. To "lock" the dynamic convergence:
 - A. If the second wedge was inserted in position B, insert the third wedge in position D.
 - B. If the second wedge was inserted in position E, insert the third wedge in position C.
 - C. Confirm the dynamic convergence remains properly aligned and lock each wedge in position with a strip of tape.

STEP #4 - GRAY SCALE AND BRIGHTNESS CENTERING

1. Turn in a color picture, set the Brightness, Picture, Color, Red, Green, Blue Cutoff controls and screen control fully CCW. Set R, G, B Drive Controls (R444, R446, R448) and Brite Center (R262) fully CW.
2. Turn the VIR off. Place black tape over Light Sensor (not on all models).
3. Disconnect the vertical yoke plug, PG11. Short TP401 to TP402. Adjust Screen Control CW until raster line lights. Then turn it CCW until the line just goes black. Disconnect the short from TP401.
4. Turn Brightness fully CCW until first gun just lights. Adjust Red, Blue, and Green Cutoff controls to just illuminate the line. Connect vertical yoke plug, PG11.
5. Turn Picture Control and Brite Center (R262) up for normal picture. Adjust the Drive Control of the predominate color for best gray scale in the high brightness areas.
6. Readjust Cutoff controls for low brightness areas. Repeat as necessary. Remove tape from Light Sensor opening.
7. Brite Center Adjustment - Turn the Brightness control fully CW and the Picture control fully CCW. Turn the Brite Center so that the black areas in the picture are slightly gray.

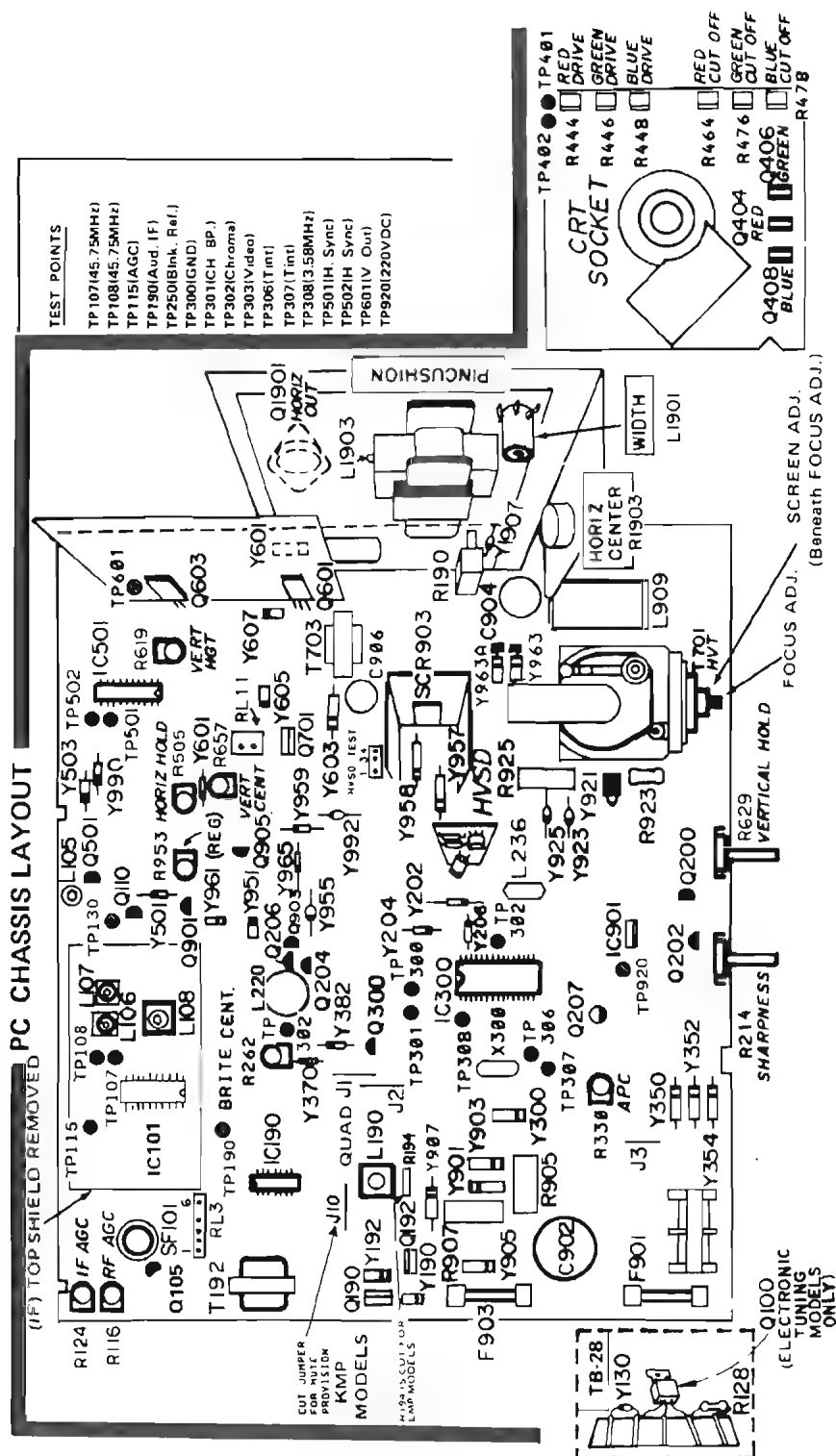


FIGURE 8. PC MAIN CHASSIS LAYOUT

ALIGNMENT

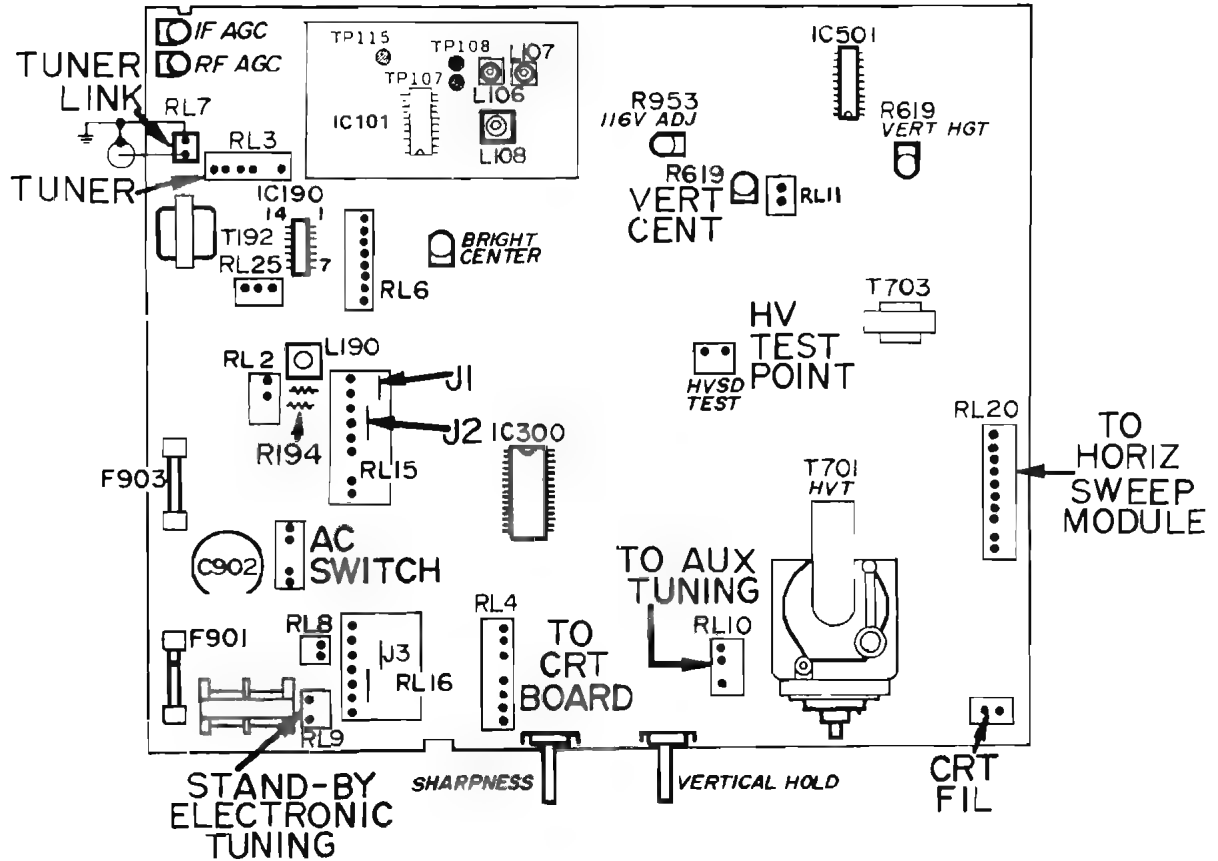


FIGURE 9. PC CHASSIS PLUG LOCATIONS

VIDEO IF ALIGNMENT

TEST EQUIPMENT

To properly align these chassis, the following test equipment with minimum requirements as specified should be used.

DOT/CROSSHATCH/COLOR BAR GENERATOR

OSCILLOSCOPE - Vertical response to at least 4.5MHz

SWEEP GENERATOR - A. With the following ranges:

1. 0 to 5MHz
2. 38 to 48MHz
3. One lo-band and one hi-band VHF channel.

- B. Output adjustable with at least .1 Volts minimum.

MARKER GENERATOR - To provide IF and chroma marker frequencies with crystal accuracy.

BIAS SUPPLY - 0 to 6vdc, variable

POWER SUPPLY - Capable of at least 17VDC output.

(PC) 3-8

GENERAL

Switch OFF power to receiver. Disconnect PG3, PG7 and PG10. Refer to Figure 9 for location of plugs. Set-up test equipment as shown in Figure 10.

POWER SUPPLY

Connect the Positive lead of a 17 Volt Power supply to pin 2 of RL10. Connect the Negative lead to the module chassis.

CAUTION: Before connecting test equipment to the module, the power supply must be disconnected or switched off.

BIAS SUPPLY

Connect the Negative lead of a Bias supply (0-6VDC) to the mod. chassis. Connect the Positive lead to TP115. Refer to Figure 10

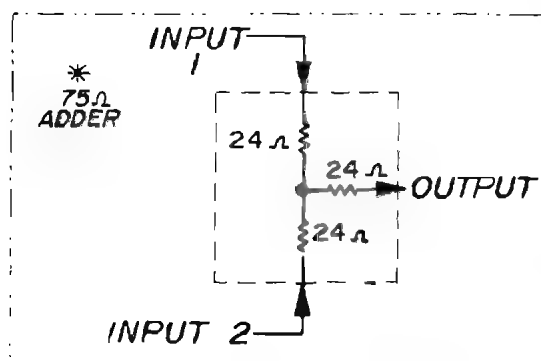
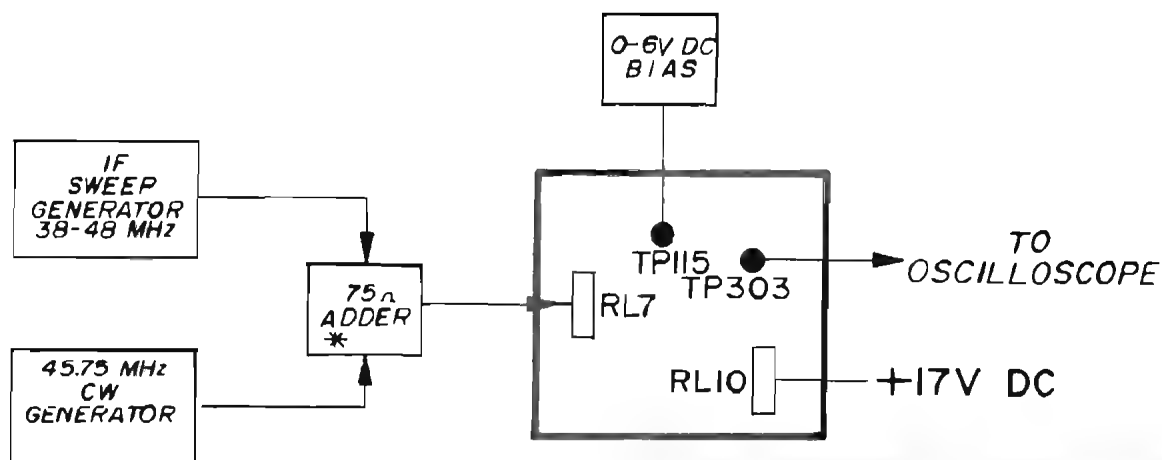


FIGURE 10. TEST SET-UP FOR IF ALIGNMENT

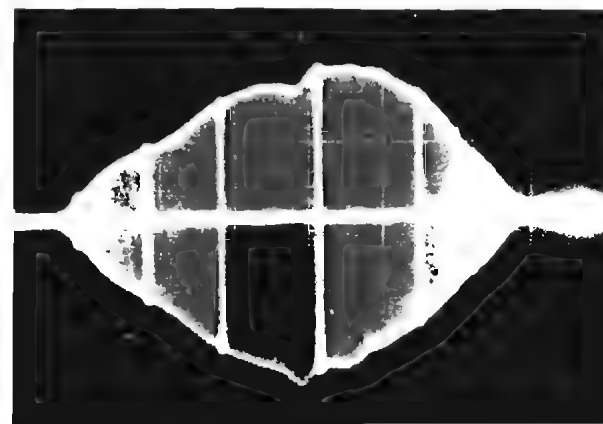


FIGURE 11. OVERALL IF SWEEP RESPONSE CURVE

NOTE: DURING ALIGNMENT PROCESS BE CAREFUL TO MAINTAIN THE 44MHz MARKER AT 0.8V (P-P) BIAS. READJUST IF NECESSARY.

L106 (45.75MHz REF) ALIGNMENT

1. Input 45.75MHz CW signal to RL7.
2. Adjust input level so that DC voltage at RL3 pin 6 (RF/AGC) is between 5 and 7VDC.
3. Adjust L106 slug for minimum DC voltage.

L107 (AFC) ALIGNMENT

1. Input 45.75MHz CW signal to RL7.
2. Adjust input level so that DC voltage at RL3 pin 6 (RF/AGC) is between 5 and 7VDC.
3. Place meter across pins 3 and 4 of RL3.
4. Adjust L107 for 0.0 ± 0.5 VDC.

OVERALL IF SWEEP AND 41.25MHz TRAF ALIGNMENT

(Refer to Figure 10 for test set-up).

1. Set Bias to $5.0\text{VDC} \pm 0.25\text{VDC}$.
2. Adjust both generators to obtain a 0.8V(P-P) waveform.
3. Adjust L105 to minimize to 41.25MHz marker.
4. Adjust L108 (top slug) to minimize 41.25MHz marker.
5. Adjust L108 (bottom slug) to maximize 44MHz marker.

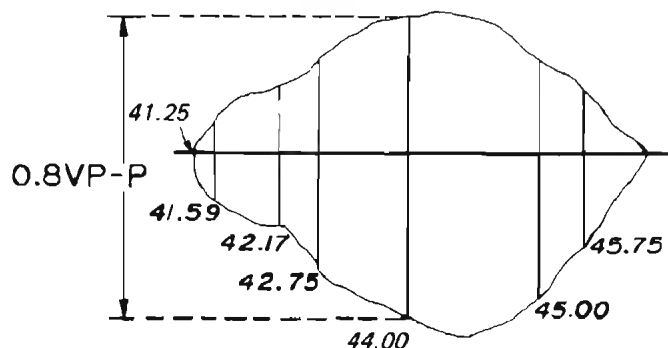


FIGURE 12. OVERALL IF SWEEP RESPONSE CURVE WITH MARKERS

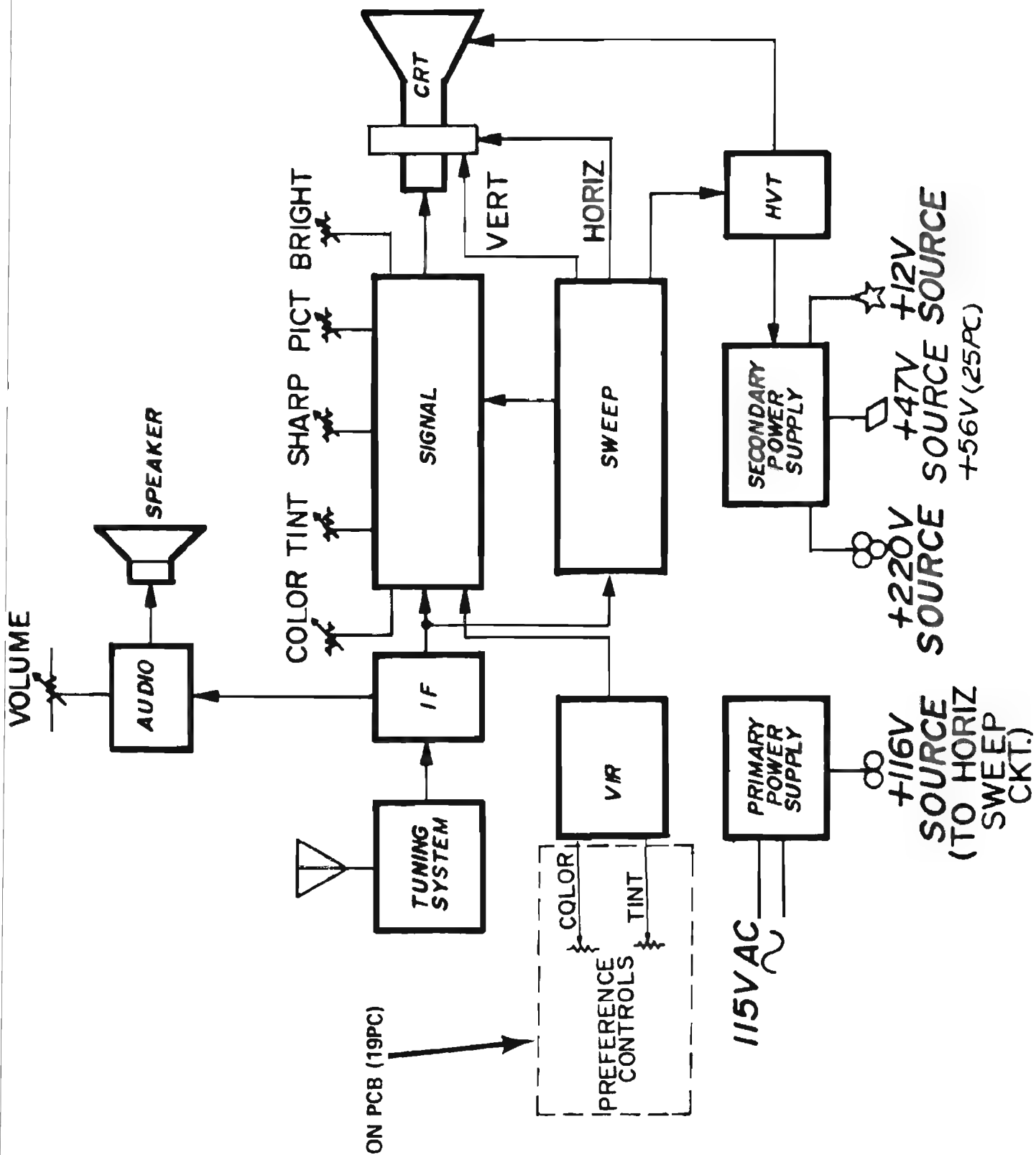


FIGURE 13. PC CHASSIS OVERALL BLOCK DIAGRAM

SERVICE INFORMATION

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(CONTINUED)

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MAIN CIRCUIT BOARD (Cont.)

L212	EP36X33	CHOKE - 56uh, 5%
L220	EP36X439	COIL - Delay Line
L236	EP36X136	CHOKE - 15uh, 10%
L259	EP36X442	CHOKE - .22uh, 20%
L300	EP36X23	CHOKE - 12uh, 5%
L320	EP36X144	CHOKE - 27uh, 5%
L321	EP36X144	CHOKE - 27uh, 5%
L322	EP36X144	CHOKE - 27uh, 5%
★ L703	EP36X437	CHOKE - Filament, H.V. Tuning
★ L901	EP36X440	COIL - Line Choke Filter
L909	EP36X441	CHOKE - 3uh, Regulator
L921	EP36X136	CHOKE - 15uh, 10%
L929	EP36X437	CHOKE - Filament, H.V. Tuning
T192	EP64X58	TRANSFORMER - Audio Output
★ T701	EP77X56	TRANSFORMER - H.V.
★ T703	EP64X57	TRANSFORMER - Buffer

MISCELLANEOUS

EP8X36	ANODE - CRT Cap
EP2X539	BRACKET - VHT Support, Plastic
EP3X7	CLIP - Fuse, F901/F903
★ EP66X19	CORD - AC Power Polarized, Wired-In-Type

F8200/F8921

F8983/F8983A

★ F901	EP10X19	FUSE - 4 amp, 250V, Snap-In, Fast Acting
★ F903	EP10X27	FUSE - 1.25 amp, 250V, Snap-In, Fast Acting
	EP3X38	WASHER - Shoulder, SCR 903, 0601, 0603

FERRITE BEAD

RGB BOARD (M-400)

EP93X377

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C403	EU22X216	.01uf, 20%, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C406	EP18X81	1000pf, 20%, 50V, HiK, Cer. Disc
C408	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C410	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C416	EP31X35	10uf, 10%, 50V, Elect.
C490	EP18X267	4700pf, 20%, 2KV, SHiK, Cer. Disc

RESISTORS

R403	EP14X103	10K ohm, 5%, 1/4W, Carbon
R404	EP14X289	430 ohm, 5%, 1/4W, Carbon
R405	ES14X59	560 ohm, 5%, 1/4W, Carbon
R406	EP14X140	330K ohm, 5%, 1/4W, Carbon
R407	EP14X125	47K ohm, 5%, 1/4W, Carbon
R411	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R413	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R414	EP14X128	330 ohm, 5%, 1/4W, Carbon
R415	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R418	EP14X128	330 ohm, 5%, 1/4W, Carbon
R417	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R418	EP14X128	330 ohm, 5%, 1/4W, Carbon
R419	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R424	EP14X187	100 ohm, 5%, 1/4W, Carbon

R426	EP14X187	100 ohm, 5%, 1/4W, Carbon
R428	ES14X70	100 ohm, 5%, 1/4W, Carbon
R430	Common	1 meg ohm, 5%, 1/4W, Carbon
R434	Common	200 ohm, 5%, 1/4W, Carbon
R436	Common	200 ohm, 5%, 1/4W, Carbon
R438	Common	200 ohm, 5%, 1/4W, Carbon
R454	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R458	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R458	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R464	ES14X64	2K ohm, 5%, 1/4W, Carbon
R466	ES14X64	2K ohm, 5%, 1/4W, Carbon
R488	ES14X64	2K ohm, 5%, 1/4W, Carbon
★ R484	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★ R486	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★ R488	EP14X231	12K ohm, 5%, 2W, Metal Oxide

POTENTIOMETERS

R444	EP49X469	150 ohm, 20%
R446	EP49X469	150 ohm, 20%
R448	EP49X469	150 ohm, 20%
R474	EP49X470	5K ohm, 20%
R476	EP49X470	5K ohm, 20%
R478	EP49X470	5K ohm, 20%

TRANSISTORS

Q404	EP15X61	NPN, Silicon
Q406	EP15X61	NPN, Silicon
Q408	EP15X61	NPN, Silicon

DIODE

Y402	EP15X68	Zener
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COIL

L403	ES38X82	CHOKE - 220uh, 10%
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MISCELLANEOUS

RL4	EP8X91	CONNECTOR - 8 Pos.
RL6	EP8X88	CONNECTOR - 2 Pos.
	EP34X65	SOCKET - CRT

HORIZ. HEAT SINK BOARD (M-1900)

EP93X348

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
	C1901	ES18X13
★ C1903	EP25X146	330pf, 20%, 2KV, Cer. Disc
C1904	EP25X152	.011uf, 5%, 1.5KV, Polypropylene
★ C1905	EP25X91	.1uf, 10%, 200V, Polypropylene
C1907	EP18X207	.47uf, 10%, 400V, Polyester
C1915	EP25X151	330pf, 20%, 500V, Cer. Disc
		2700pf, 10%, 200V, Mylar

RESISTORS

R1901	EP14X322	100 ohm, 10%, 5W, Wirewound
R1911	EP14X128	330 ohm, 5%, 1/4W, Carbon

CONTINUED

HORIZ. HEAT SINK BOARD (Cont.)

TRANSISTORS

Y1903	EP57X5	Rectifier, Silicon
Y1905	EP57X5	Rectifier, Silicon
Y1907	EP57X5	Rectifier, Silicon

COILS

L1903	EU36X536	CHOKE - 5.6uh, 10%
★ T1901	EP36X444	COIL - Pncushion Asm.

MISCELLANEOUS

RL12	EP8X30	CONNECTOR - 1 Pin
FB1901	EP12X2	FERRITE - Bead
FB1903		

COLOR AVERAGING BOARD (M-M)

EP93X382

CAPACITORS

REF NO	PART NO.	DESCRIPTION
MC30	EP18X169	01uf, 30% 25V, Cer. Disc
MC31	EP31X11	4.7uf, 10%, 35V, Elect
MC32	EP31X35	10uf, 10%, 35V, Elect.
MC33	EP31X45	47uf, 10%, 25V, Elect.

RESISTORS

MR30	ES14X64	2K ohm, 5%, 1/4W, Carbon
MR31	ES14X71	1K ohm, 5%, 1/4W, Carbon
MR32	EP14X125	47K ohm, 5%, 1/4W, Carbon
MR33	ES14X59	560 ohm, 5%, 1/4W, Carbon
MR34	EP14X288	18K ohm, 5%, 1/4W, Carbon
MR35	Common	3K ohm, 5%, 1/4W, Carbon
MR36	EP14X122	7.5K ohm, 5%, 1/4W, Carbon
MR37	Common	3K ohm, 5%, 1/4W, Carbon
MR38	Common	3K ohm, 5%, 1/4W, Carbon
MR39	EP14X104	22K ohm, 5%, 1/4W, Carbon
MR40	ES14X70	100 ohm, 5%, 1/4W, Carbon
MR41	EP14X220	180 ohm, 5%, 1/4W, Carbon
MR42	EP14X120	150 ohm, 5%, 1/4W, Carbon
MR43	EP14X288	18K ohm, 5%, 1/4W, Carbon

TRANSISTORS

MQ30	EP15X87	NPN, Silicon
MQ31	ES15X90	PNP, Silicon
MQ32	EP15X86	NPN, Silicon
MQ33	EP15X87	NPN, Silicon

DIODES

MY30	EU16X11	Silicon
MY31	EU16X11	Silicon
MY32	EU16X11	Silicon
MY33	EU16X11	Silicon
MY34	EP16X19	Zener

VIR BOARD (M-V)

EP93X381

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
CV10	EP25X87	.047uf, 20%, 50V, Polyester
CV11	EP18X204	470pf, 10%, 50V, Cer. Disc
CV12	EP25X87	.047uf, 20%, 50V, Polyester
CV13	EP18X198	2200pf, 30%, 25V, Cer. Disc
CV14	EP31X35	10uf, 10%, 16V, Elect
CV15	EP25X87	.047uf, 20%, 50V, Polyester
CV16	EP25X87	.047uf, 20%, 50V, Polyester
CV17	EP25X87	.047uf, 20%, 50V, Polyester
CV18	EP18X204	470pf, 10%, 50V, Cer. Disc
CV19	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV21	EP31X45	47uf, 10%, 25V, Elect.
CV22	EP18X197	1000pf, 20%, 50V, Cer. Disc
CV23	EP25X87	.047uf, 20%, 50V, Polyester
CV24	EP31X141	220uf, 10%, 16V, Elect.
CV25	EP18X169	1000pf, 30%, 25V, Cer. Disc
CV26	EP31X45	47uf, 10%, 16V, Elect.
CV27	EP25X87	.047uf, 20%, 50V, Polyester
CV29	EP25X87	.047uf, 20%, 50V, Polyester
CV30	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV31	EP25X87	.047uf, 20%, 50V, Polyester
CV32	EP25X87	.047uf, 20%, 50V, Polyester
CV33	EP31X55	100uf, 10%, 10V, Elect.
CV34	EP31X45	47uf, 10%, 16V, Elect.
CV35	EP25X87	.047uf, 20%, 50V, Polyester
CV36	EP18X197	1000pf, 20%, 50V, Cer. Disc
CV37	EP25X87	.047uf, 20%, 50V, Polyester
CV38	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV40	EP18X204	470pf, 10%, 50V, Cer. Disc
CV51	EP18X214	.022uf, 20%, 500, Cer. Disc

RESISTORS

RV10	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
RV11	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV12	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
RV13	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
RV14	EP14X252	3.9K ohm, 5%, 1/4W, Carbon
RV16	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV17	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV18	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
RV19	EP14X304	2.7K ohm, 5%, 1/4W, Carbon
RV20	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
RV21	EP14X125	47K ohm, 5%, 1/4W, Carbon
RV22	EP14X125	47K ohm, 5%, 1/4W, Carbon
RV23	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV24	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
RV25	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV26	EP14X125	47K ohm, 5%, 1/4W, Carbon
RV27	Common	220 ohm, 5%, 1/4W, Carbon
RV28	EP14X125	47K ohm, 5%, 1/4W, Carbon
RV29	EP14X103	10K ohm, 5%, 1/4W, Carbon
RV30	EP14X288	18K ohm, 5%, 1/4W, Carbon
RV31	EP14X103	10K ohm, 5%, 1/4W, Carbon
RV32	EP14X140	330K ohm, 5%, 1/4W, Carbon
RV33	Common	750K ohm, 5%, 1/4W, Carbon
RV34	EP14X271	8.2K ohm, 5%, 1/4W, Carbon
RV35	Common	3.6K ohm, 5%, 1/4W, Carbon
RV36	Common	9.1K ohm, 5%, 1/4W, Carbon
RV37	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV40	EP14X125	47K ohm, 5%, 1/4W, Carbon
RV41	EP14X271	8.2K ohm, 5%, 1/4W, Carbon
RV42	EP14X289	430 ohm, 5%, 1/4W, Carbon

VIR BOARD (Cont.)

RV43	EP14X187	100 ohm, 5%, 1/4W, Carbon
RV44	EP14X180	5.6K ohm, 5%, 1/4W, Carbon
RV45	EP14X285	15K ohm, 5%, 1/4W, Carbon
RV46	EP14X252	3.9K ohm, 5%, 1/4W, Carbon
RV47	EP14X103	10K ohm, 5%, 1/4W, Carbon
RV48	ES14X58	470 ohm, 5%, 1/4W, Carbon
RV49	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV50	EP14X271	8.2K ohm, 5%, 1/4W, Carbon
RV51	EP14X288	30K ohm, 5%, 1/4W, Carbon
RV52	EP14X136	33K ohm, 5%, 1/4W, Carbon
RV53	Common	10 ohm, 5%, 1/4W, Carbon
RV55	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV56	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV57	EP14X179	2K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

RV15	EP49X471	5K ohm, 20%
RV39	EP49X471	5K ohm, 20%

INTERGRATED CIRCUIT

ICV10	EP84X60	Mono
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TRANSISTORS

QV10	EP15X88	NPN, Silicon
QV11	EP15X88	NPN, Silicon
QV12	EP15X88	NPN, Silicon
QV13	EP15X88	NPN, Silicon
QV14	EP15X88	NPN, Silicon
QV15	EP15X48	PNP, Silicon

DIODES

YV10	EU16X11	Silicon
YV11	EU16X11	Silicon
YV12	EU16X11	Silicon
YV13	EU16X11	Silicon
YV14	EU16X11	Silicon
YV15	EP16X19	Zener

COIL

LV50	EP36X33	CHOKE - 56uh, 5%
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LDR BOARD (M1900)

EP41X120

REF. NO.	PART. NO.	DESCRIPTION
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CAPACITOR

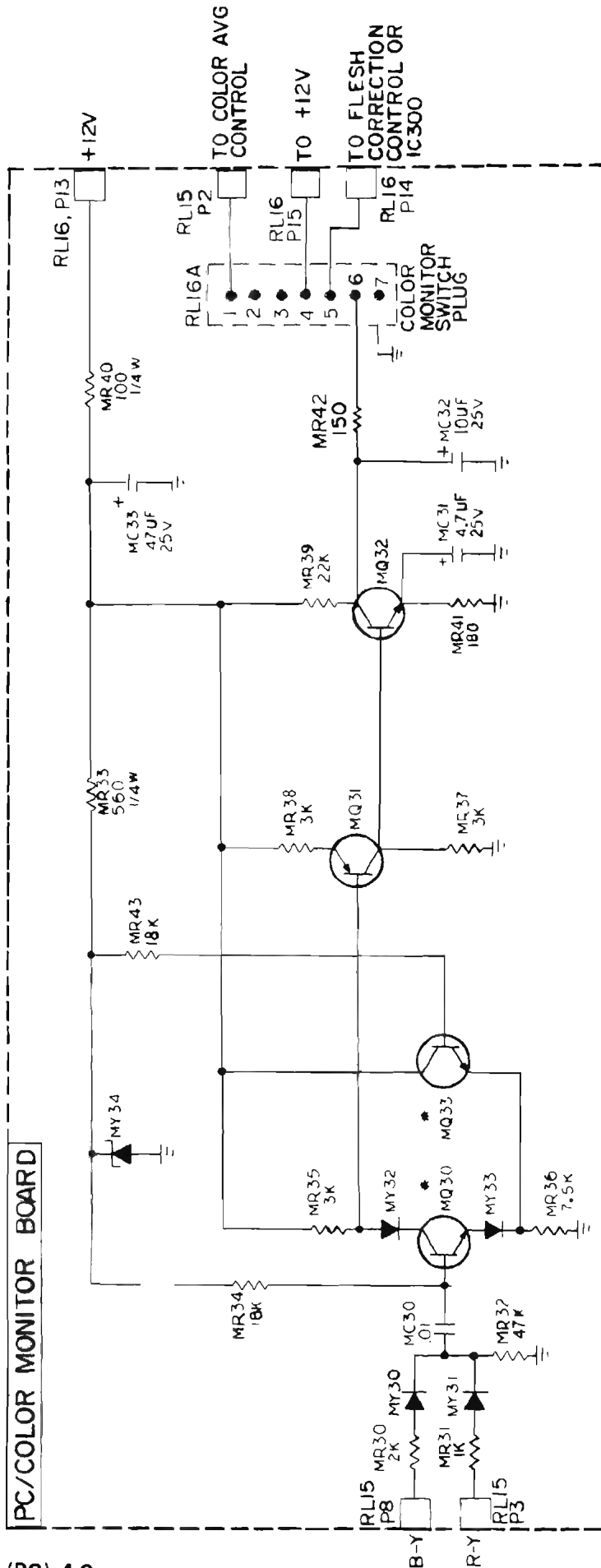
C1918	EP31X88	47uf, 16V, Elect.
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RESISTORS

R1902	Common	4.3K ohm, 5%, 1/4W, Carbon
R1904	Common	3K ohm, 5%, 1/4W, Carbon
R1906	EP14X284	12K ohm, 5%, 1/4W, Carbon
R1910	ES14X59	560 ohm, 5%, 1/4W, Carbon
R1911	EP14X324	Light Dep. Resistor

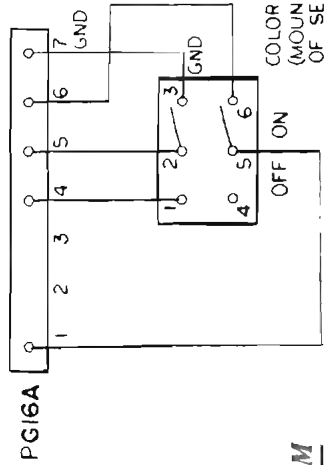
MISCELLANEOUS

PQ28	EP8X42	CONNECTOR - 4 Pins
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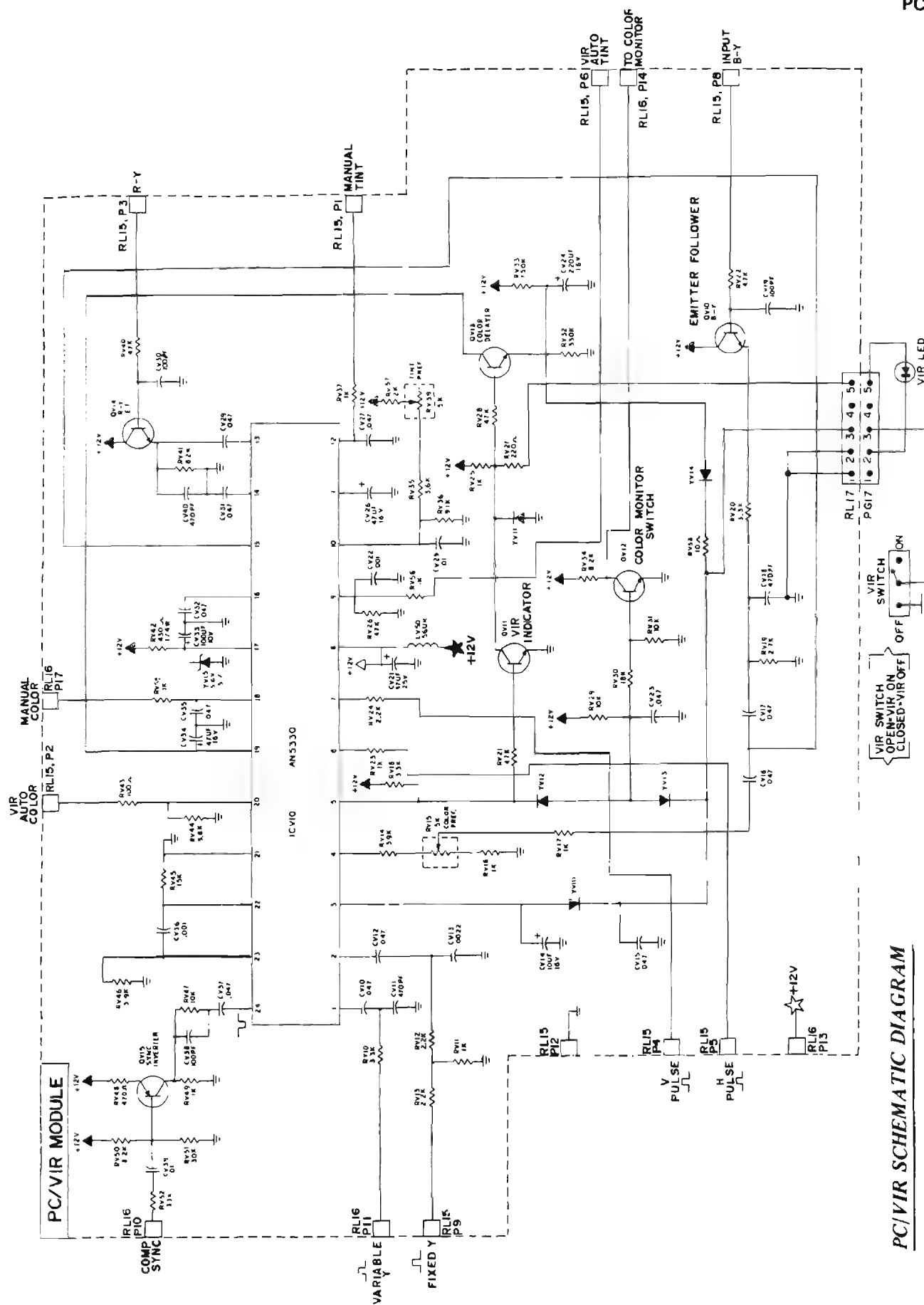


COLOR MONITOR SWITCH PLUG

* MATCHED BETA PAIR



PC/COLOR AVERAGING SCHEMATIC DIAGRAM



— TECHNICIAN NOTES —

VIR CIRCUIT BOARD

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
RV33	Common	750K ohm, 5%, 1/8W, Carbon
RV34	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
RV35	Common	3.6K ohm, 5%, 1/4W, Carbon
RV36	Common	9.1K ohm, 5%, 1/8W, Carbon
RV37	ES14X71	1K ohm, 5%, 1/8W, Carbon
RV40	EP14X125	47K ohm, 5%, 1/8W, Carbon
RV41	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
RV42	EP14X289	430 ohm, 5%, 1/4W, Carbon
RV43	EP14X187	100 ohm, 5%, 1/8W, Carbon
RV44	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
RV45	EP14X285	15K ohm, 5%, 1/8W, Carbon
RV46	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
RV47	EP14X103	10K ohm, 5%, 1/8W, Carbon
RV48	ES14X58	470 ohm, 5%, 1/8W, Carbon
RV49	ES14X71	1K ohm, 5%, 1/8W, Carbon
RV50	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
RV51	EP14X288	30K ohm, 5%, 1/8W, Carbon
RV52	EP14X136	33K ohm, 5%, 1/8W, Carbon
RV53	Common	10 ohm, 5%, 1/8W, Carbon
RV55	ES14X71	1K ohm, 5%, 1/8W, Carbon
RV56	ES14X71	1K ohm, 5%, 1/8W, Carbon
RV57	EP14X179	2K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
RV15	EP49X472	5K ohm, 20%
RV39	EP49X472	5K ohm, 20%

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
ICV10	EP84X60	Mono

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
QV10	EP15X88	NPN, Silicon
QV11	EP15X88	NPN, Silicon
QV12	EP15X88	NPN, Silicon
QV13	EP15X88	NPN, Silicon
QV14	EP15X88	NPN, Silicon
QV15	EP15X48	PNP, Silicon

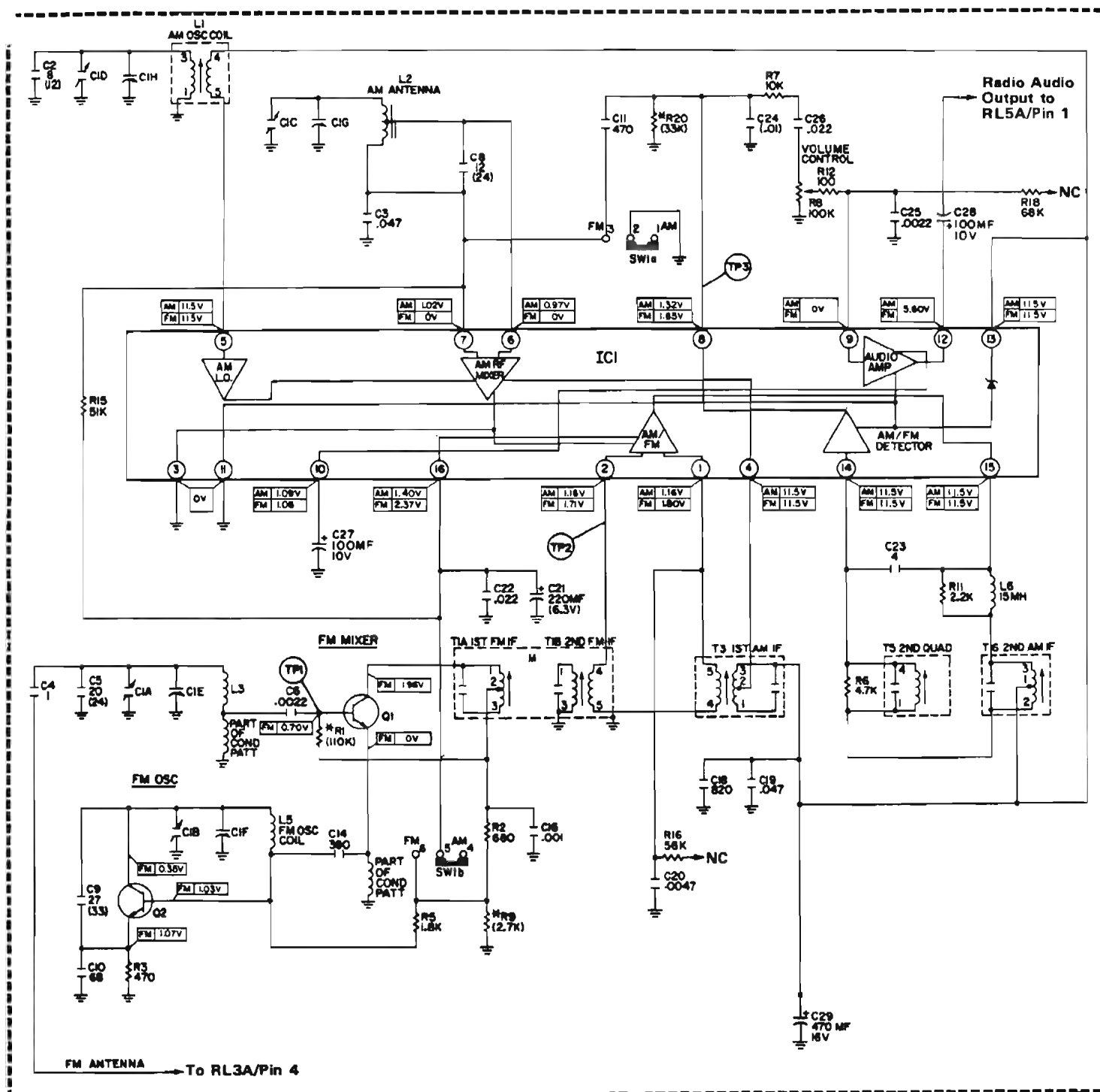
DIODES

REF. NO.	PART NO.	DESCRIPTION
YV10	EU16X11	Silicon
YV11	EU16X11	Silicon
YV12	EU16X11	Silicon
YV13	EU16X11	Silicon
YV14	EU16X11	Silicon
YV15	EP16X19	Zener

COIL

REF. NO.	PART NO.	DESCRIPTION
LV50	EP36X33	CHOKE-56uh, 5%

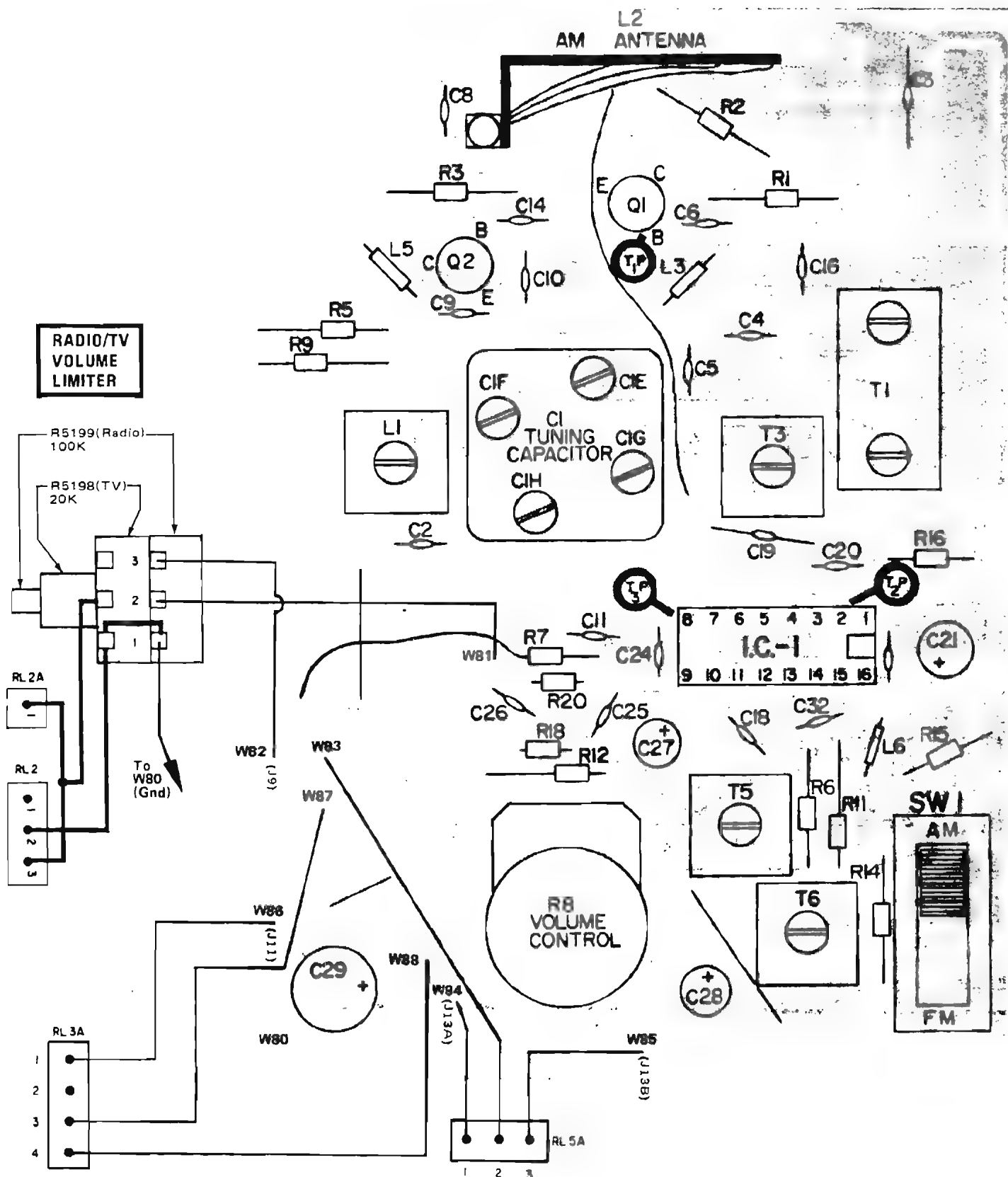
AM/FM RADIO CIRCUIT BOARD SCHEMATIC DIAGRAM



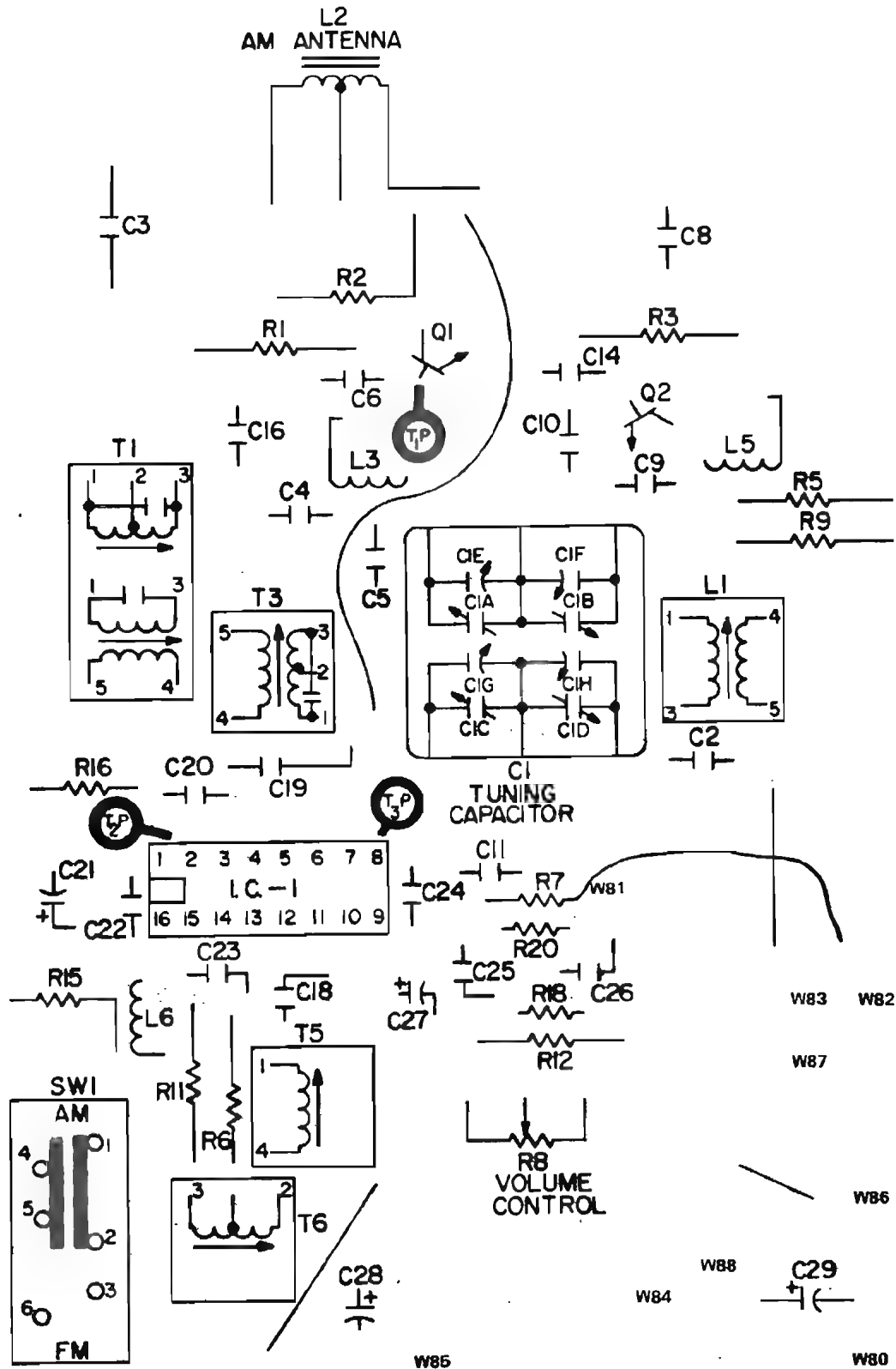
NOTES:

1. UNLESS OTHERWISE SPECIFIED CAPACITORS LESS THAN 1 = MF CAPACITORS MORE THAN 1 = PF
2. VOLTAGES ARE POSITIVE WITH RESPECT TO GROUND WITH MINIMUM VOLUME UNDER NO SIGNAL CONDITIONS
3. SW1 SHOWN IN AM POSITION SW2 SHOWN IN ON POSITION
4. *REFER TO REPLACEMENT PART LIST
5. NC (NOT CONNECTED)

AM/FM RADIO CIRCUIT BOARD COMPONENT LAYOUT (Component Side)



AM/FM RADIO CIRCUIT BOARD COMPONENT LAYOUT (Copper Side)



19PC "RADIO/CLOCK/TIMER" CHASSIS REPLACEMENT PARTS LIST

ANTENNA TERMINAL BRACKET ASSEMBLY
EP37X72ANTENNA TERMINAL BRACKET ASSEMBLYEP37X72CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
* C2100	EP18X127	470pf, 20%, 125V, Cer. Disc
* C2110	EP18X127	470pf, 20%, 125V, Cer. Disc
* C2120	EP18X127	470pf, 20%, 125V, Cer. Disc
* C2130	EP18X127	470pf, 20%, 125V, Cer. Disc
* C2140	EP18X127	470pf, 20%, 125V, Cer. Disc
* C2150	EP18X127	470pf, 20%, 125V, Cer. Disc
C2160	ES18X82	47pf, 20%, 500V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
* R2100	EP14X241	1.8 Meg ohm, 40%, 1/2W, Carbon
* R2110	EP14X241	1.8 Meg ohm, 40%, 1/2W, Carbon
* R2120	EP14X241	1.8 Meg ohm, 40%, 1/2W, Carbon
* R2130	EP14X241	1.8 Meg ohm, 40%, 1/2W, Carbon
* R2140	EP14X241	1.8 Meg ohm, 40%, 1/2W, Carbon
* R2150	EP14X241	1.8 Meg ohm, 40%, 1/2W, Carbon
R2160	EP14X125	47K ohm, 20%, 1/2W, Carbon
R2170	ES14X65	4.7K ohm, 5%, 1/2W, Carbon

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	ES3X29	CLIP-Antenna Terminal
	EP2X540	CLIP-Power Cord Retainer
	EP51X6	COAX ANTENNA ISOLATION-W/Shield Box
SW5008	EP39X146	SWITCH-Channel Select, Slide Type

TV SECTION

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL2	EP8X90	CONNECTOR-3 Pos.
RL2A	EP8X30	CONNECTOR-1 Pos.

AM/FM RADIO CIRCUIT BOARD
EP93X506CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
+ C1	EP30X17	TUNING CAPACITOR (Component changes required C2-(12pf), C5-(24pf), C8-(24pf), C9-(33pf), C10-(68pf))
# C2	EP18X63	12pf, 5%, 50V, Cer. Disc
# C2	EP18X18	8pf, 5%, 50V, Cer. Disc
C3	EP18X167	.047uf, +80-20%, 50V, HiK, Cer. Disc
C4	EW18X10	1pf, 5%, 50V, Cer. Disc
# C5	Common	24pf, 5%, 50V, NPO, Cer. Disc
# C5	EW18X15	20pf, 5%, 50V, NPO, Cer. Disc
C6	ES18X75	2200pf, 20%, 50V, Cer. Disc
# C8	Common	24pf, 5%, 50V, NPO, Cer. Disc
# C8	EW18X175	12pf, 5%, 50V, NPO, Cer. Disc
# C9	EP18X188	33pf, 5%, 50V, NPO, Cer. Disc
# C9	EP18X187	27pf, 5%, 50V, N220, Cer. Disc

# C10	EP18X191	68pf, 5%, 50V, NPO, Cer. Disc
C11	EP18X204	470pf, 20%, 50V, Cer. Disc
C14	EP18X117	390pf, 10%, 50V, Cer. Disc
C16	EW18X11	.001uf, 20%, 50V, Cer. Disc
C18	EW18X244	.047uf, 20%, 50V, Cer. Disc
C19	EP18X180	820pf, 20%, 50V, Cer. Disc
C20	EP18X260	4700pf, +80-20%, 50V, Cer. Disc
C21	EP18X166	220uf, 20%, 6.3V, Elect.
C22	EP18X214	.022uf, 20%, 50V, Cer. Disc
C23	EP18X165	4pf, 5%, 50V, Cer. Disc
C24	EP18X262	.01uf, +80-20%, 50V, Cer. Disc
C25	EW18X236	2200pf, 20%, 50V, Cer. Disc
C26	EP18X214	.022uf, 20%, 50V, Cer. Disc
C27	ES31X32	100uf, 20%, 10V, Elect.
C28	ES31X32	100uf, 20%, 10V, Elect.
C29	EW31X73	220uf, 20%, 16V, Elect.

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
# R1	EP14X289	160K ohm, 5%, 1/4W, Carbon
# R1	Common	150K ohm, 5%, 1/4W, Carbon
# R1	Common	200K ohm, 5%, 1/4W, Carbon
# R1	Common	240K ohm, 5%, 1/4W, Carbon
R2	ES14X60	680 ohm, 5%, 1/4W, Carbon
R3	ES14X58	470 ohm, 5%, 1/4W, Carbon
R5	EP14X361	1.8K ohm, 5%, 1/4W, Carbon
R6	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R7	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R8	EP14X105	100K ohm, 5%, 1/4W, Carbon
# R9	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
# R9	ES14X64	2K ohm, 5%, 1/4W, Carbon
R11	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R12	EP14X105	100K ohm, 5%, 1/4W, Carbon
R15	Common	51K ohm, 5%, 1/4W, Carbon
R16	EP14X92	56K ohm, 5%, 1/4W, Carbon
R18	EP14X119	68K ohm, 5%, 1/4W, Carbon
# R20	Common	24K ohm, 5%, 1/4W, Carbon
# R20	EP14X136	33K ohm, 5%, 1/4W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R5198	EP49X498	DUAL POT-T.V. Vol. Limit, 25K ohm, 30%
R5199		Radio Vol. Limit, 100K ohm, 30%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
+ IC	EP84X239	AM/FM (Component changes required R9-(4.7K), R20-(24K))
PIC01	EP84X238	TIMER

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
+ Q1	EP15X227	FM Mixer (Component change required R1-(160K))
Q2	EP15X227	FM Osc.

COILS

REF. NO.	PART NO.	DESCRIPTION
L1	EP36X478	COIL-AM Osc.
L2	EP36X479	COIL-AM Loop
L3	EP36X480	COIL-FM RF
L5	EP36X481	COIL-FM Osc.
L6	EP36X136	CHOKER-15uh
T1	EP36X482	COIL-1st & 2nd IF
T3	EP36X483	COIL-1st AM IF
T5	EP36X484	COIL-2nd Quad
T6	EP36X485	COIL-2nd AM IF

* NOTE: When replacing this part with the type specified above, corresponding parts should be checked for proper value and appropriate changes made if required.

* NOTE: When replacing this part use original value, unless there are major repairs (C1, Q1, IC).

"RADIO/CLOCK/TIMER" CHASSIS PARTS LIST (CONT.)

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP92X122	BRACKET-Radio/Clock Support, Plastic
RL3A	EP8X67	CONNECTOR-4 Pos.
	EP4X455	DIAL SCALE-AM/FM Radio Readout Lexan
	EP2X612	GEAR-Radio Tuning, Plastic
	EP2X613	POINTER-Station Indicator, Lexan
S1	EP39X212	SWITCH-AM/FM, Slide Type

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
PQ01	EP15X91	NPN, Silicon
PQ02	EP15X85	NPN, Silicon
PQ03	EP15X48	PNP, Silicon
PQ04	EP15X88	NPN, Silicon
PQ05	EP15X221	NPN, Silicon
PQ06	EP15X221	NPN, Silicon
PQ07	EP15X85	NPN, Silicon
PQ08	EP15X85	NPN, Silicon
PQ09	EP15X85	NPN, Silicon

RADIO POWER SUPPLY/KEYBOARD ASSEMBLY

EP93X507

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
KC31	EP18X216	4700pf, 30%, 25V, Cer. Disc
KC32	EP18X180	820pf, 10%, 50V, Cer. Disc
KC33	EP18X260	4700pf, 10%, 50V, Cer. Disc
KC34	EP18X180	820pf, 10%, 50V, Cer. Disc
PC01	EP18X220	1000pf, +100-20%, Cer. Disc
PC02	EP18X220	1000pf, +100-20%, Cer. Disc
PC03	EP18X220	1000pf, +100-20%, Cer. Disc
PC04	EP18X220	1000pf, +100-20%, Cer. Disc
PC05	EP18X220	1000pf, +100-20%, Cer. Disc
PC06	EP18X220	1000pf, +100-20%, Cer. Disc
PC07	EP31X169	100uf, 20%, 35V, Elect.
PC08	EP31X154	470uf, 20%, 10V, Elect.
PC10	EP31X62	100uf, 20%, 10V, Elect.
PC11	EP31X111	2200uf, 20%, 25V, Elect.
PC12	EP31X172	22uf, 20%, 25V, Elect.
PC14	EP31X62	100uf, 20%, 10V, Elect.
PC15	EP31X62	100uf, 20%, 10V, Elect.
PC16	EP31X62	100uf, 20%, 10V, Elect.
PC17	EP31X45	47uf, 20%, 35V, Elect.
PC18	EP31X187	.68uf, 10%, 35V, Tantalum
PC20	EP25X77	.1uf, 20%, 50V, Polyester
PC21	EP18X169	.01uf, 30%, 25V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
KR30	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
KR31	Common	360K ohm, 5%, 1/4W, Carbon
KR33	EP14X103	10K ohm, 5%, 1/8W, Carbon
KR34	Common	360K ohm, 5%, 1/8W, Carbon
PR01	EP14X12	1 Meg ohm, 5%, 1/4W, Carbon
PR02	EP14X12	1 Meg ohm, 5%, 1/4W, Carbon
PR03	ES14X51	47 ohm, 5%, 1/4W, Carbon
PR05	EP14X103	10K ohm, 5%, 1/4W, Carbon
PR06	EP14X104	22K ohm, 5%, 1/4W, Carbon
PR07	EP14X119	68K ohm, 5%, 1/4W, Carbon
PR08	EP14X136	33K ohm, 5%, 1/4W, Carbon
PR09	EP14X103	10K ohm, 5%, 1/4W, Carbon
PR10	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
PR11	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
PR12	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
PR13	ES14X71	1K ohm, 5%, 1/4W, Carbon
PR14	EP14X136	33K ohm, 5%, 1/4W, Carbon
PR15	EP14X105	100K ohm, 5%, 1/4W, Carbon
PR16	Common	5.1K ohm, 5%, 1/4W, Carbon
PR17	EP14X131	47K ohm, 5%, 1/4W, Carbon
PR18	EP14X131	47K ohm, 5%, 1/4W, Carbon

DIODES

REF. NO.	PART NO.	DESCRIPTION
KY20	EP41X14	Silicon, Red
PY01	EP57X4	Rectifier, Silicon
PY02	EP57X4	Rectifier, Silicon
PY03	EP57X4	Rectifier, Silicon
PY04	EP57X4	Rectifier, Silicon
PY05	EP57X4	Rectifier, Silicon
PY06	EP57X4	Rectifier, Silicon
PY07	EP57X4	Rectifier, Silicon
PY09	ES16X27	Silicon
PY10	ES16X27	Silicon
PY11	ES16X27	Silicon
PY12	ES16X27	Silicon
PY13	ES16X27	Silicon
PY14	EP57X4	Rectifier, Silicon
PY15	ES16X27	Silicon
PY16	ES16X27	Silicon
PY17	EP57X4	Rectifier, Silicon
PZ01	EP16X158	Zener, 1W

COIL & TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
* PT01	EP88X48	TRANSFORMER-Power
PT02	EP64X60	TRANSFORMER-Inverter
PRY01	EP41X132	RELAY

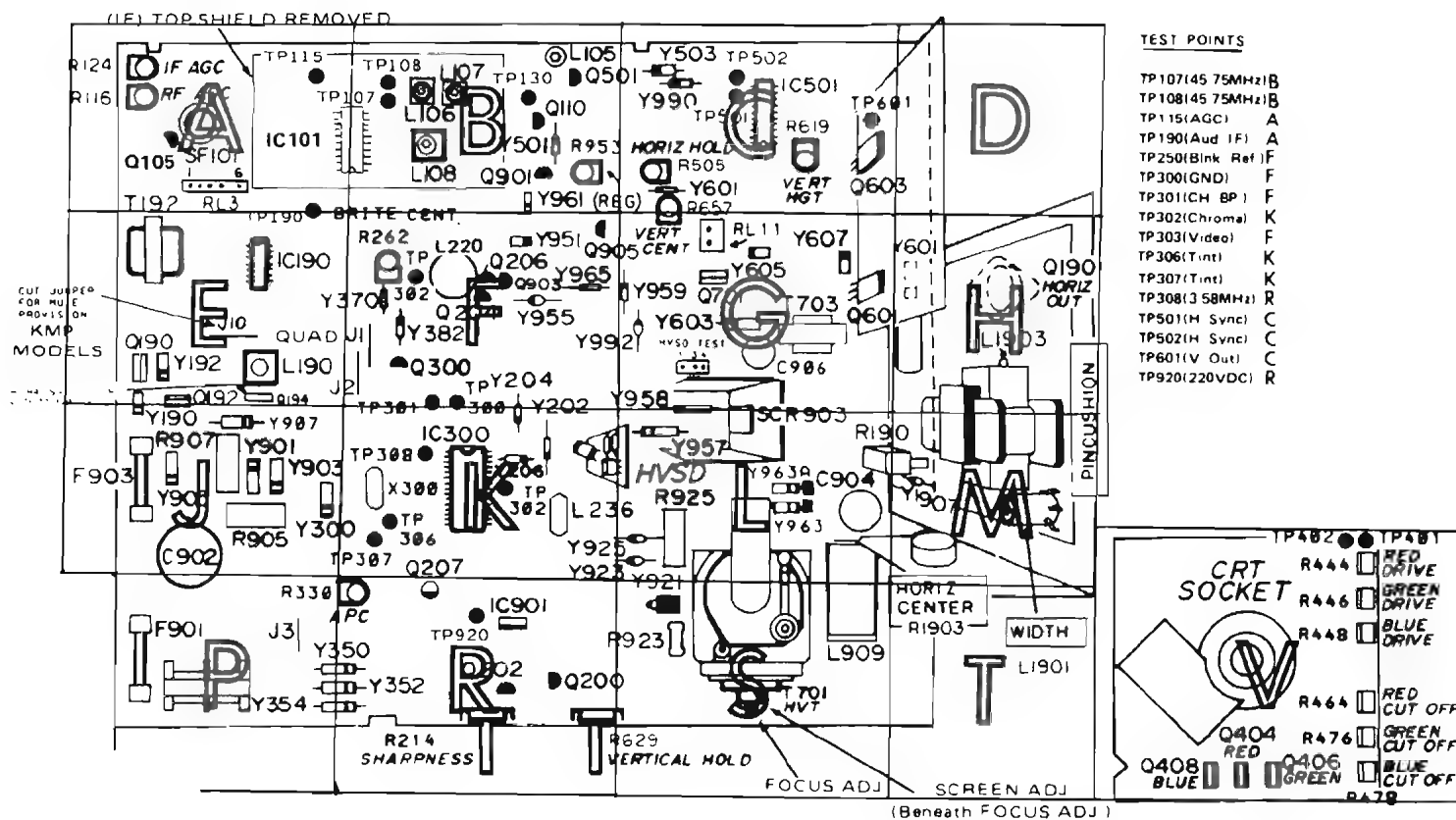
MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP58X3	BATTERY-Nickel Cadmium
	EP8X130	CABLE-Ribbon Type, 6 Wires, 10 1/4" Long
KCTM1	EP41X147	CLOCK/TIMER DISPLAY
PR19	EP49X497	CONTROL-Adjust 60hz, 20K ohm, 20%
	EP8X131	CONNECTOR-Clock/Timer Display, 16 Pos. Strip
RL1A	EP8X93	CONNECTOR-5 Pos.
RL6A	EP8X84	CONNECTOR-6 Pos.
KSW01	EP39X207	SWITCH-Radio/TV Select, Push & Lock
KSW02	EP39X207	SWITCH-On/Off Clock Alarm, Push & Lock
KSW03	EP39X206	SWITCH-Clock Alarm Set, Push
KSW04	EP39X206	SWITCH-Clock Fast, Push
KSW05	EP39X206	SWITCH-Clock Slow, Push
KSW06	EP39X206	SWITCH-Clock Time Set, Push
* S4000	EP39X211	SWITCH-Power Clock/Radio, Push-Push
	EP3X55	SPACER-LED

+ NOTE: When replacing this part with the type specified above, corresponding parts should be checked for proper value and appropriate changes made if required.

* NOTE: When replacing this part use original value, unless there are major repairs (C1, Q1, IC).

PC CHASSIS LAYOUT



19PC-C/D/E PARTS LIST (CONTINUED)

Q204	EP15X88	Video Amp, NPN, Silicon
Q207	EP15X57	Video Amp, PNP, Silicon
Q300	EP15X226	Burst Gate, NPN, Silicon
Q601	EP15X105	Vertical Output, NPN, Silicon
Q603	EP15X105	Vertical Driver, NPN, Silicon
Q701	EP15X19	Horizontal Driver, NPN, Silicon
Q901	EP15X88	Error Amp, NPN, Silicon
Q903	EP15X91	Regulator Control, NPN, Silicon
Q905	EP15X57	Regulator Trigger, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y190	EU16X11	Silicon
Y192	EU16X11	Silicon (PC-C/D)
Y194	EP16X58	17 Volt, Zener
Y202	ES16X27	Silicon
Y204	ES16X27	Silicon
Y206	ES16X27	Silicon
Y300	EP16X147	Schockley
Y350	EP16X58	17 Volt, Zener
Y352	EP16X58	17 Volt, Zener
Y354	EP16X58	17 Volt, Zener
Y503	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP57X4	Rectifier, Silicon
Y605	EP57X4	Rectifier, Silicon
Y607	EP57X4	Rectifier, Silicon
Y609	EP57X4	Rectifier, Silicon
Y901	EP57X4	Rectifier, Silicon
Y903	EP57X4	Rectifier, Silicon
Y905	EP57X4	Rectifier, Silicon
Y907	EP57X4	Rectifier, Silicon
Y921	EP16X149	Rectifier, Fast Recovery
Y923	EP57X5	Rectifier, Silicon
Y925	EP57X5	Rectifier, Silicon
Y931	EU16X11	Silicon
Y932	EU16X11	Silicon
Y939	EP57X4	Rectifier, Silicon (PC-E Only)
Y951	EP16X19	5.6 Volt, Zener
Y954	ES16X27	Silicon
Y955	EP57X5	Rectifier, Silicon
* Y957	EP16X148	36 Volt, Zener
* Y958	EP16X148	36 Volt, Zener
Y959	ES16X27	Silicon
Y961	ES16X27	Silicon
Y963A	EP16X154	Rectifier, Silicon
Y965	EU16X11	Silicon
Y990	ES16X27	Silicon
Y991	EP57X4	Silicon
Y992	EP57X5	Rectifier, Silicon

COILS AND TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
CF100	EP41X126	FILTER-Ceramic, 4.5mhz, Audio
CF212	EP41X133	TRAP-Ceramic, 3.58mhz
L101	EP36X442	CHOKE-.82uh, 10Z
L102	EP36X442	CHOKE-.82uh, 10Z
L104	EP36X4	CHOKE-9.2uh
L105	EP36X312	COIL-4.5mc, Trap
L106	EP36X433	COIL-45.75mhz, Molded
L107	EP36X433	COIL-45.75mhz, Molded
L108	EP36X468	COIL-IF & 41.25mhz, Trap
L180	EP36X144	CHOKE-27uh, 5Z
L190	EP36X435	COIL-Quad.
L196	ES36X82	CHOKE-220uh, 20Z
L200	EP36X314	CHOKE-30uh, 10Z
L204	EP36X17	CHOKE-150uh, 10Z
L220	EP36X439	COIL-Delay Line
L236	EP36X136	CHOKE-15uh, 10Z
L300	EP36X23	CHOKE-12uh, 5Z
L320	EP36X33	CHOKE-56uh, 5Z
L321	EP36X33	CHOKE-56uh, 5Z
L322	EP36X33	CHOKE-56uh, 5Z

* L703	EP36X437	CHOKE-Filament, H.V. Tuning
* L901	EP36X440	COIL-Line Choke Filter
L903	EP36X436	COIL-Filament Choke
* L909	EP36X441	CHOKE-3mh, Regulator
L921	EP36X477	CHOKE-82uh, 5Z
L929	EP36X437	CHOKE-Filament, H.V. Tuning
SF101	EP41X123	WAVE FILTER
T192	EP64X58	TRANSFORMER-Audio Output
* T701	EP77X56	TRANSFORMER-H.V.
* T703	EP64X57	TRANSFORMER-Buffer
- X300	EP41X10	CRYSTAL-Quartz

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP60X13	AIR GAP-For H. V. T.
	EP8X36	ANODE-CRT Cap
	EP2X539	BRACKET-HVT Support, Plastic
	EP3X7	CLIP-Fuse, F901/F903 (4 Used)
*	EP66X19	CORD-AC Power Polarized, Wired-In-Type
FB921	EP12X8	FERRITE BEAD
FB963A	EP12X8	FERRITE BEAD
* F901	EP10X19	FUSE-4amp, 250V, Snap-In, Fast Acting
* F903	EP10X27	FUSE-1.25amp, 250V, Snap- In, Fast Acting
	EP3X38	WASHER-Shoulder, SCR903, Q601 Q603

RGB CIRCUIT BOARD ASM

EP93X377

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C403	EU22X216	.01uf, 20Z, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20Z, 50V, HiK, Cer. Disc
C406	EP18X270	1000pf, 20Z, 50V, HiK, Cer. Disc
C408	EP18X180	820pf, 20Z, 50V, HiK, Cer. Disc
C490	EP18X267	4700pf, 20Z, 2KV, SHiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R403	EP14X103	10K ohm, 5Z, 1/8W, Carbon
R404	EP14X289	430 ohm, 5Z, 1/8W, Carbon
R405	ES14X59	560 ohm, 5Z, 1/8W, Carbon
R411	EP14X183	3.3K ohm, 5Z, 1/2W, Carbon
R413	EP14X183	3.3K ohm, 5Z, 1/2W, Carbon
R414	EP14X128	330 ohm, 5Z, 1/8W, Carbon
R415	EP14X183	3.3K ohm, 5Z, 1/2W, Carbon
R416	EP14X128	330 ohm, 5Z, 1/8W, Carbon
R418	EP14X128	330 ohm, 5Z, 1/8W, Carbon
R419	EP14X183	3.3K ohm, 5Z, 1/4W, Carbon
R424	EP14X187	100 ohm, 5Z, 1/8W, Carbon
R426	EP14X187	100 ohm, 5Z, 1/8W, Carbon
R428	ES14X70	100 ohm, 5Z, 1/8W, Carbon
R430	EP14X131	1 meg ohm, 10Z, 1/4W, Carbon
R434	EP14X329	200 ohm, 5Z, 1/8W, Carbon
R436	EP14X329	200 ohm, 5Z, 1/8W, Carbon
R438	EP14X329	200 ohm, 5Z, 1/8W, Carbon
R454	ES14X65	4.7K ohm, 5Z, 1/8W, Carbon
R456	ES14X65	4.7K ohm, 5Z, 1/8W, Carbon
R458	ES14X65	4.7K ohm, 5Z, 1/8W, Carbon
R464	ES14X64	2K ohm, 5Z, 1/8W, Carbon
R466	ES14X64	2K ohm, 5Z, 1/8W, Carbon
R468	ES14X64	2K ohm, 5Z, 1/8W, Carbon
* R484	EP14X231	12K ohm, 5Z, 2W, Metal Oxide
* R486	EP14X231	12K ohm, 5Z, 2W, Metal Oxide
* R488	EP14X231	12K ohm, 5Z, 2W, Metal Oxide

PC CHASSIS

19PC-C/D/E PARTS LIST (CONTINUED)

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R444	EP49X469	Red Drive, 150 ohm, 20%
R446	EP49X469	Green Drive, 150 ohm, 20%
R448	EP49X469	Blue Drive, 150 ohm, 20%
R474	EP49X470	Red Cut Off, 5K ohm, 20%
R476	EP49X470	Green Cut Off, 5K ohm, 20%
R478	EP49X470	Blue Cut Off, 5K ohm, 20%

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q404	EP15X61	Red Amp, NPN, Silicon
Q406	EP15X61	Green Amp, NPN, Silicon
Q408	EP15X61	Blue Amp, NPN, Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L403	ES36X82	CHOKE-220uh, 10%,

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL4	EP8X91	CONNECTOR-8 Pos.
RL5	EP8X68	CONNECTOR-2 Pos.
	EP34X65	SOCKET-CRT

February 23, 1982

(3674A) (Penney's 4663A) (WARDS 4789A)

1-Added Description for Transistors & Diode

2-C416 Was EP31X35 50V 6/29/82

3-C416 Was EP31X108 10% 11/15/82

4-C416 Deleted EP31X171 10uf, 20%, 100V, Elect. 3/28/83

5-R406 Deleted EP14X140 330K ohm, 5%, 1/4W, Carbon

6-R407 Deleted EP14X125 47K ohm, 5%, 1/8W, Carbon

7-R419 Deleted EP14X183 3.3K ohm, 5%, 1/4W, Carbon

8-Y402 Deleted EP16X58 Diode

9-R430 Was Common 1 meg ohm, 5%, 1/4W, Carbon 7/11/83

HORIZ. HEAT SINK BOARD ASM

EP93X453

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C1901	ES18X13	330pf, 20%, 2KV, Cer. Disc
* C1903	EP25X145	.011uf, 5%, 1.5KV, Polyester
* C1904	EP25X152	.1uf, 10%, 200V, Polypropylene
* C1905	EP25X91	.47uf, 10%, 400V, Polyester
C1907	EP18X207	330pf, 20%, 500V, Cer. Disc
C1915	EP25X151	2700pf, 10%, 200V, Mylar

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
* R1901	EP14X322	100 ohm, 10%, 5W, Wirewound
R1911	EP14X128	330 ohm, 5%, 1/2W, Carbon

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	Horiz. Output Damper, NPN, Silicon

DIODES

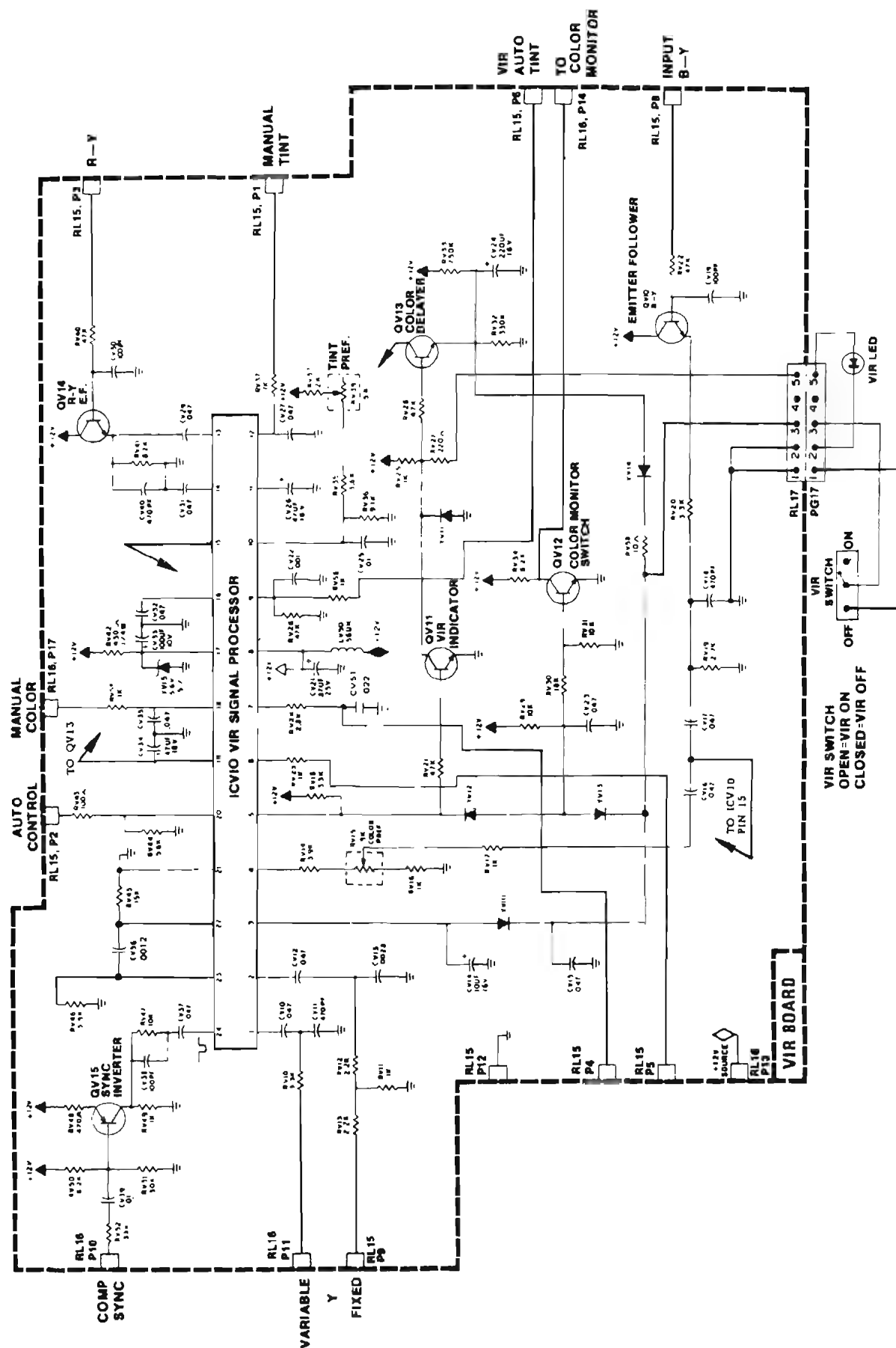
REF. NO.	PART NO.	DESCRIPTION
Y1903	EP57X5	Rectifier, Silicon
Y1905	EP57X5	Rectifier, Silicon
Y1907	EP57X5	Rectifier, Silicon

COILS

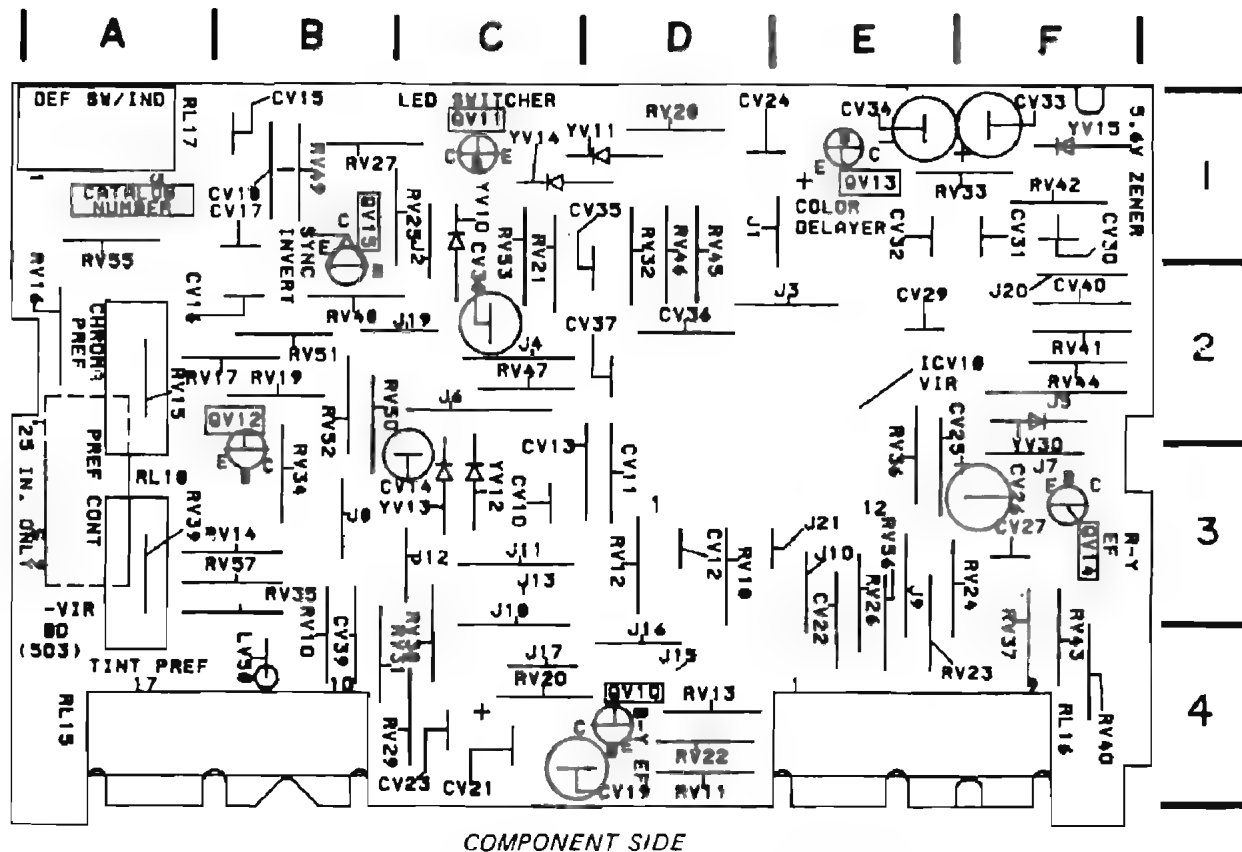
REF. NO.	PART NO.	DESCRIPTION
* L1901	EP36X443	COIL-Width
L1903	EU36X536	CHOKE-5.6uh, 10%
* T1901	EP36X444	COIL-Pincushion Asm

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL12	EP8X30	CONNECTOR-1 Pin
FB1901	EP12X2	FERRITE-Bead
FB1903	EP12X2	FERRITE-Bead
R1903	EP49X160	HORIZ CENTERING
	EP3X52	SPACER-Q1901



PC/VIR CIRCUIT BOARD (EP93X462) COMPONENT LAYOUT

[illegible]



VOL. P
(PC) 4-30

VIR CIRCUIT BOARD ASMEP93X462CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
CV10	EP25X87	.047uf, 20%, 50V, Polyester
CV11	EP18X204	470pf, 10%, 50V, Cer. Disc
CV12	EP25X87	.047uf, 20%, 50V, Polyester
CV13	EP18X198	2200pf, 30%, 25V, Cer. Disc
CV14	EP31X149	10uf, 10%, 16V, Elect.
CV15	EP25X87	.047uf, 20%, 50V, Polyester
CV16	EP25X87	.047uf, 20%, 50V, Polyester
CV17	EP25X87	.047uf, 20%, 50V, Polyester
CV18	EP18X204	470pf, 10%, 50V, Cer. Disc
CV19	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV21	EP31X169	100uf, 10%, 25V, Elect.
CV22	EP18X197	1000pf, 20%, 50V, Cer. Disc
CV23	EP25X87	.047uf, 20%, 50V, Polyester
CV24	EP31X141	220uf, 10%, 16V, Elect.
CV25	EP18X169	.01uf, 30%, 25V, Cer. Disc
CV26	EP31X45	47uf, 10%, 16V, Elect.
CV27	EP25X87	.047uf, 20%, 50V, Polyester
CV29	EP25X87	.047uf, 20%, 50V, Polyester
CV30	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV31	EP25X87	.047uf, 20%, 50V, Polyester
CV32	EP25X87	.047uf, 20%, 50V, Polyester
CV33	EP31X162	100uf, 10%, 10V, Elect.
CV34	EP31X45	47uf, 10%, 16V, Elect.
CV35	EP25X87	.047uf, 20%, 50V, Polyester
CV36	EP18X271	1200pf, 20%, 50V, HiK, Cer. Disc
CV37	EP25X87	.047uf, 20%, 50V, Polyester
CV38	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV39	EP18X169	.01uf, 30%, 25V, Cer. Disc
CV40	EP18X204	470pf, 10%, 50V, Cer. Disc
CV45	EP31X166	1uf, 20%, 50V, Elect.
CV51	EP18X214	.022uf, 20%, 500V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
RV10	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
RV11	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
RV12	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
RV13	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV14	EP14X437	3.9K ohm, 5%, 1/4W, Carbon
RV16	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV17	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV18	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
RV19	EP14X304	2.7K ohm, 5%, 1/4W, Carbon
RV20	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
RV21	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV22	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV23	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV24	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
RV25	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV26	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV27	EP14X129	220 ohm, 5%, 1/4W, Carbon
RV28	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV29	EP14X103	10K ohm, 5%, 1/4W, Carbon
RV30	EP14X414	18K ohm, 5%, 1/4W, Carbon
RV31	EP14X103	10K ohm, 5%, 1/4W, Carbon
RV32	EP14X140	330K ohm, 5%, 1/4W, Carbon
RV33	EP14X438	750K ohm, 5%, 1/4W, Carbon
RV34	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
RV35	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
RV36	EP14X370	9.1K ohm, 5%, 1/4W, Carbon
RV37	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV40	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV41	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
RV42	EP14X289	430 ohm, 5%, 1/4W, Carbon
RV43	ES14X70	100 ohm, 5%, 1/4W, Carbon
RV44	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
RV45	EP14X398	15K ohm, 5%, 1/4W, Carbon
RV46	EP14X437	3.9K ohm, 5%, 1/4W, Carbon
RV47	EP14X103	10K ohm, 5%, 1/4W, Carbon

RV48	ES14X58	470 ohm, 5%, 1/4W, Carbon
RV49	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV50	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
RV51	EP14X419	30K ohm, 5%, 1/4W, Carbon
RV52	EP14X136	33K ohm, 5%, 1/4W, Carbon
RV53	EP14X409	10 ohm, 5%, 1/4W, Carbon
RV55	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV56	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV57	ES14X64	2K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
RV15	EP49X472	5K ohm, 20%
RV39	EP49X472	5K ohm, 20%

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
ICV10	EP84X60	MONO

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
QV10	EP15X88	NPN, Silicon
QV11	EP15X88	NPN, Silicon
QV12	EP15X88	NPN, Silicon
QV13	EP15X88	NPN, Silicon
QV14	EP15X88	NPN, Silicon
QV15	EP15X48	PNP, Silicon

DIODES

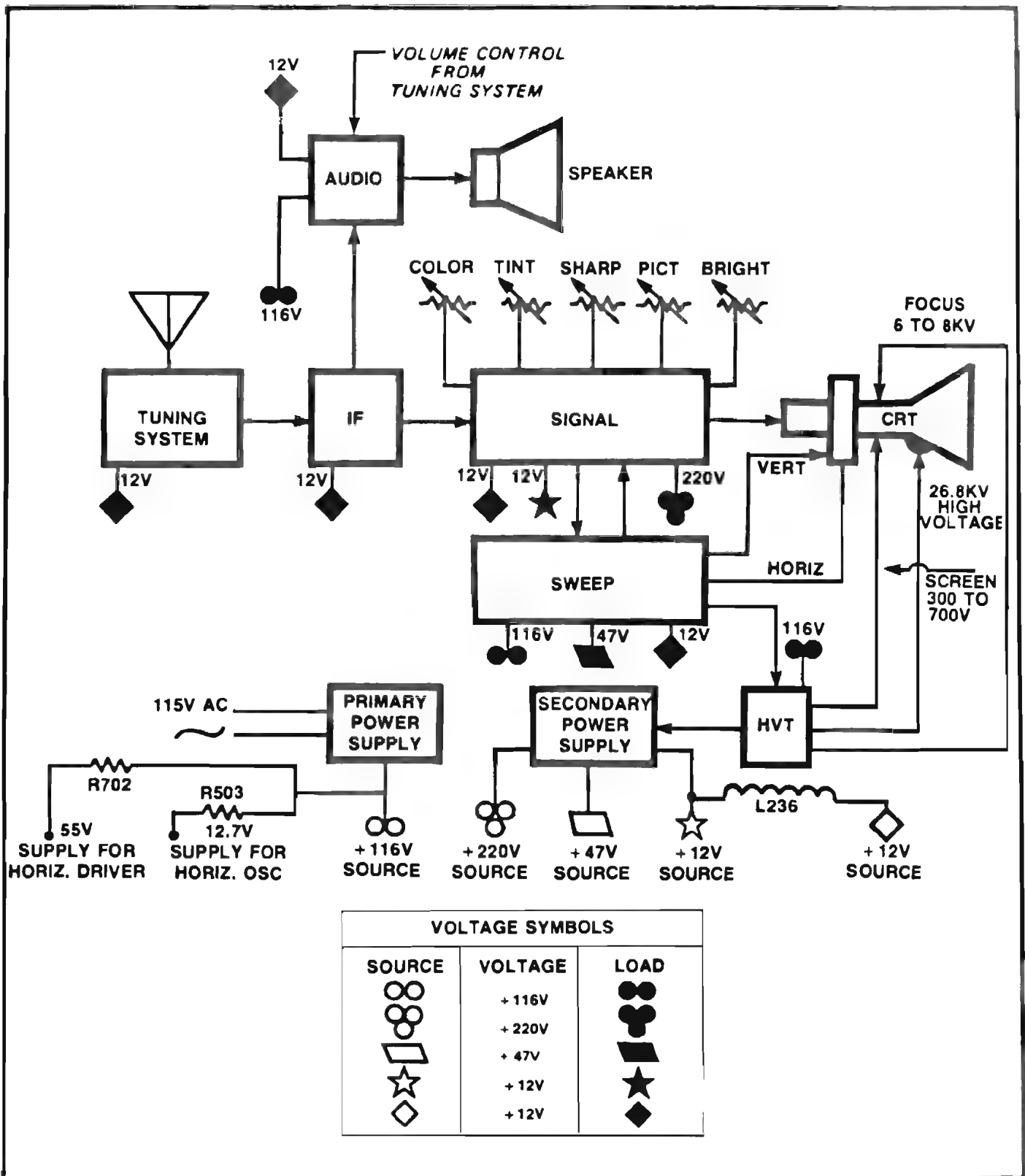
REF. NO.	PART NO.	DESCRIPTION
YV10	EU16X11	Silicon
YV11	EU16X11	Silicon
YV12	EU16X11	Silicon
YV13	EU16X11	Silicon
YV14	EU16X11	Silicon
YV15	EP16X19	Zener, 1W

COIL

REF. NO.	PART NO.	DESCRIPTION
LV50	EP36X33	CHOKE-56uh, 5%

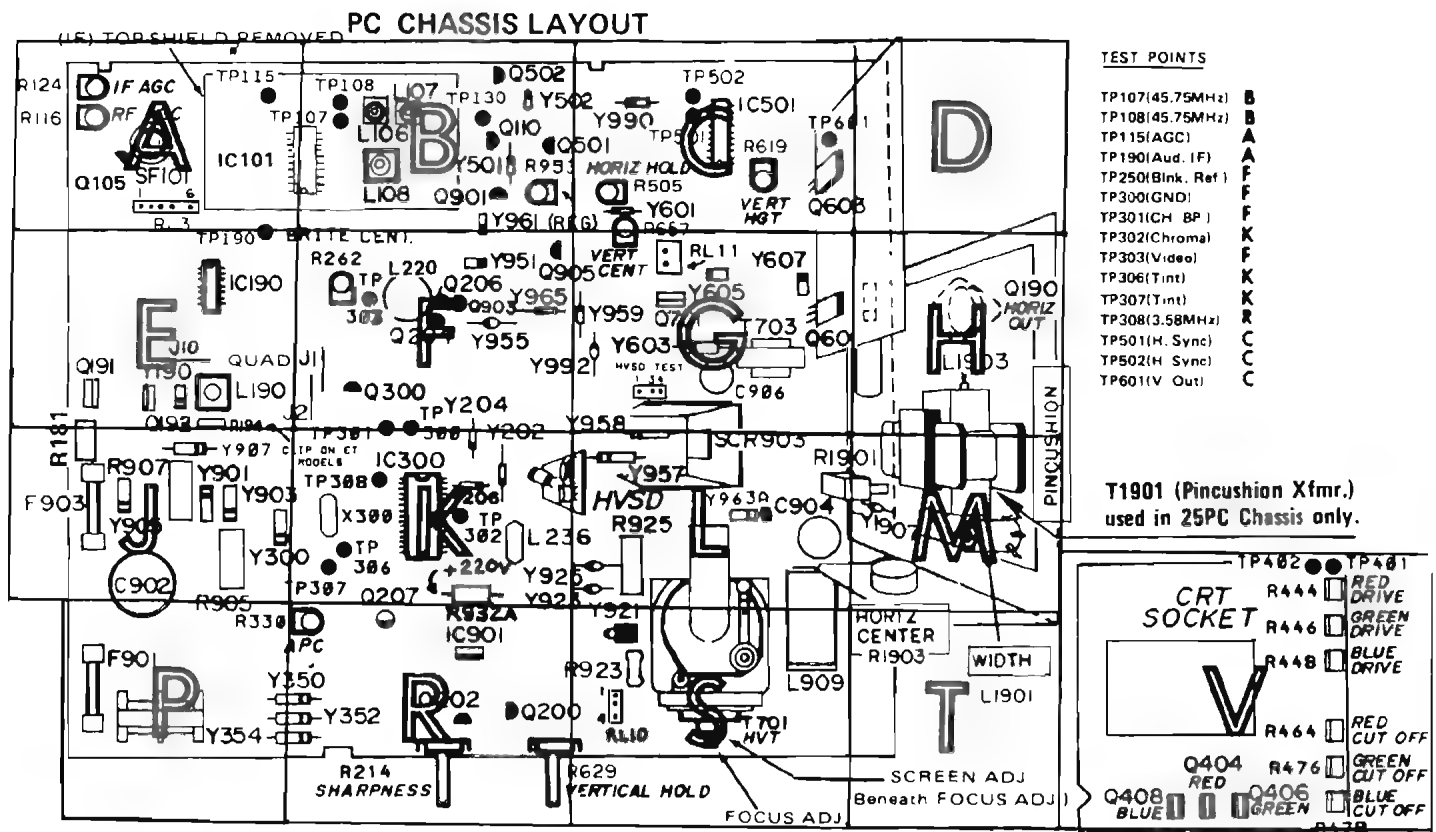
PC CHASSIS BLOCK DIAGRAM

WITH SOURCE VOLTAGES AND SYMBOLS CHART



PC CHASSIS LAYOUT

BOXED RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR ADJUSTMENTS, COMPONENTS, AND TEST POINTS LOCATION (see PC Chassis Layout below).



19PC-F/H Parts List (Cont.)

R932A	EP14X378	120 ohm, 5%, 1/4W, Carbon
R933	EP14X403	220K ohm, 5%, 1/2W, Carbon
★ R935	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
★ R936	EU13X4	1K ohm, 5%, 1/2W, Carbon
★ R937	EP14X287	4.7 ohm, 5%, 1W, Metal Oxide
R939	EP14X187	100 ohm, 5%, 1/2W, Carbon
★ R941	EP14X54	18 ohm, 5%, 2W, Metal Oxide
R951	EP14X320	68K ohm, 2%, 1W, Metal Oxide
R952	EP14X457	1.8 meg, ohm, 5%, 1/4W, Carbon
R954	EP14X105	100K ohm, 5%, 1/4W, Carbon
R955	EP14X252	3.9K ohm, 2%, 1/8W, Carbon
R957	EP14X284	1K ohm, 5%, 1/8W, Carbon
R959	EP14X284	1K ohm, 5%, 1/8W, Carbon
R961	ES14X71	1K ohm, 5%, 1/4W, Carbon
R963	EP14X318	220 ohm, 5%, 1/4W, Carbon
R965	EP14X394	6.2K ohm, 5%, 1/8W, Carbon
R969	ES14X56	33 ohm, 5%, 1/2W, Carbon
R971	EP14X128	330 ohm, 5%, 1/2W, Carbon
R973	ES14X58	470 ohm, 5%, 1/2W, Carbon
★ R975	EP14X275	1K ohm, 10%, 3W, Wirewound
R981	EP14X318	3 ohm, 10%, 5W, Wirewound
★ R983	EP14X368	1.6K ohm, 5%, 1W, Metal Oxide
R985	EP14X396	240 ohm, 5%, 1/8W, Carbon
R990	EP14X443	110 ohm, 5%, 1/2W, Metal Oxide
R996	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R998	EP14X398	15K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R116	EP49X463	RF/AFC, 5K ohm, 20%
R124	EP49X463	IF/AGC, 5K ohm, 20%
R214	EP49X464	Sharpness, 1K ohm, 20%
R262	EP49X463	Brightness, 5K ohm, 20%
R330	EP49X465	APC, 50K ohm, 20%
R505	EP49X463	Horiz. Hold, 5K ohm, 20%
R619	EP49X466	Vert. Height, 250 ohm, 20%
R629	EP49X467	Vert. Hold, 10K ohm, 20%
R657	EP49X465	Vert. Centering, 50K ohm, 20%
R953	EP49X468	Reg., 1K ohm, 20%

INTERGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC101	EP62X167	HVSD-Thick Film
IC190	EP84X213	VIF/Def/AFC
IC300	EP84X216	IF/Sound
IC501	EP84X221	Chroma/Video
IC901	EP84X215	Sync. Sep.
	EP84X217	12V, 3 Ter. Regulator

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
SCR903	EP15X217	SCR Regulator, PNP
Q105	EP15X104	Pre Amp, HF, BiPolar
Q110	EP15X87	Video Emitter Follower NPN, Silicon
Q188	EP15X88	NPN, Silicon
Q191	EP15X228	NPN, Silicon
Q193	EP15X222	PNP, Silicon
Q200	EP15X88	Regulator, NPN, Silicon
Q202	EP15X48	Beam Limiter, PNP, Silicon
Q204	EP15X88	Video Amp, NPN, Silicon
Q207	EP15X225	Video Amp, PNP, Silicon
Q300	EP15X226	Burst Gate, NPN, Silicon
Q501	EP15X86	NPN, Silicon

Q502	EP15X87	NPN, Silicon
Q601	EP15X105	Vertical Output, NPN, Silicon
Q603	EP15X105	Vertical Driver, NPN, Silicon
Q701	EP15X123	Horizontal Driver, NPN, Silicon
Q901	EP15X88	Error Amp, NPN, Silicon
Q903	EP15X91	Regulator Control, NPN, Silicon
Q905	EP15X225	Regulator Trigger, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y190	ES16X27	Silicon
Y202	ES16X27	Silicon
Y204	ES16X27	Silicon
Y206	ES16X27	Silicon
Y300	EP16X3	GER.
Y350	EP16X58	17 Volt, Zener
Y352	EP16X58	17 Volt, Zener
Y354	EP16X58	17 Volt, Zener
Y502	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP57X4	Rectifier, Silicon
Y605	EP57X4	Rectifier, Silicon
Y607	EP57X4	Rectifier, Silicon
Y609	EP57X4	Rectifier, Silicon
Y901	EP57X4	Rectifier, Silicon
Y903	EP57X4	Rectifier, Silicon
Y905	EP57X4	Rectifier, Silicon
Y907	EP57X4	Rectifier, Silicon
Y921	EP16X149	Rectifier, Fast Recovery
Y923	EP16X154	Rectifier, Silicon
Y925	EP57X5	Rectifier, Silicon
Y931	EU16X11	Silicon
Y932	EU16X11	Silicon
Y939	EP57X4	Rectifier, Silicon
Y951	EP16X19	5.6 Volt, Zener
Y954	ES16X27	Silicon
Y955	EP57X5	Rectifier, Silicon
★ Y957	EP16X148	36 Volt, Zener
★ Y958	EP16X148	36 Volt, Zener
Y959	ES16X27	Silicon
Y961	ES16X27	Silicon
Y963A	EP16X154	Rectifier, Silicon
Y965	EU16X11	Silicon
Y990	ES16X27	Silicon
Y991	EP57X4	Rectifier, Silicon
Y992	EP57X5	Rectifier, Silicon

COILS AND TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
CF100	EP41X126	FILTER-Ceramic, 4.5mhz, Audio
CF105	EP41X143	CERAMIC TRAP-4.5mhz
CF212	EP41X153	TRAP-Ceramic, 3.58mhz
L102	EP36X442	CHOKE-.82uh, 10%
L108	EP36X433	COIL-45.75mhz, Molded
L107	EP36X433	COIL-45.75mhz, Molded
L108	EP36X488	COIL-IF & 41.25mhz, Trap
L150	EP36X138	CHOKE-15uh, 5%
L180	EP36X144	CHOKE-27uh, 5%
L190	EP36X435	COIL-Quad.
L200	EP36X314	CHOKE-30uh, 10%
L204	EP36X17	CHOKE-150uh, 10%
L212	EP36X136	CHOKE-15uh, 5%
L220	EP36X459	COIL-Delay Line
L236	EP36X136	CHOKE-15uh, 10%
L300	EP36X23	CHOKE-12uh, 5%
L320	EP36X33	CHOKE-58uh, 5%

(CONTINUED)

19PC F/H Parts List Cont.

L321	EP36X33	CHOKE-56uh, 5%
L322	EP36X33	CHOKE-56uh, 5%
★L703	EP36X437	CHOKE-Filament, H.V. Tuning
★L901	EP36X440	COIL-Line Choke Filter
L903	EP36X436	COIL-Filament Choke
★L909	EP36X441	CHOKE-3mh, Regulator
L921	EP36X477	CHOKE-82uh, 5%
L929	EP36X437	CHOKE-Filament, H.V. Tuning
SF101	EP41X152	WAVE FILTER
★T701	EP77X64	TRANSFORMER-H.V.
★T703	EP64X57	TRANSFORMER-Buffer
X300	EP41X10	CRYSTAL-Quartz

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP60X13	AIR GAP-For H. V. T.
	EP8X36	ANODE-CRT Cap
	EP2X539	BRACKET-HVT Support, Plastic
	EP3X7	CLIP-Fuse, F901/F903 (4 Used)
★	EP66X19	CORD-AC Power Polarized, Wired-In-Type
FB921	EP12X8	FERRITE BEAD
FB963A	EP12X8	FERRITE BEAD
★F901	EP10X19	FUSE-4amp, 250V, Snap-In, Fast Acting
★F903	EP10X27	FUSE-1.25 amp, 250V, Snap-In Fast Acting (PC-F only)
★F903	EP10X57	FUSE-1.25amp, 250V, Snap- In, Med Acting (PC-H only)
	EP3X38	WASHER-Shoulder, SCR903, Q601 Q603

RGB CIRCUIT BOARD

EP93X550

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C403	EP18X26	.01uf, +80-20%, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C406	EP18X270	1000pf, 20%, 50V, HiK, Cer. Disc
C408	EP18X205	560pf, 20%, 50V, HiK, Cer. Disc
C410	EP18X74	330pf, 20%, 50V, HiK, Cer. Disc
C490	EP18X267	4700pf, +80-20%, 2KV, SHiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R403	EP14X103	10K ohm, 5%, 1/4W, Carbon
R404	EP14X289	430 ohm, 5%, 1/4W, Carbon
R405	ES14X59	560 oh, 5%, 1/4W, Carbon
★R411	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
★R413	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
R414	EP14X128	330 ohm, 5%, 1/4W, Carbon
★R415	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
R416	EP14X128	330 ohm, 5%, 1/4W, Carbon
R418	EP14X128	330 ohm, 5%, 1/4W, Carbon
★R419	EP14X38	3.3K ohm, 5%, 1/4W, Carbon

★R424	ES14X70	100 ohm, 5%, 1/4W, Carbon
★R426	ES14X70	100 ohm, 5%, 1/4W, Carbon
★R428	ES14X70	100 ohm, 5%, 1/8W, Carbon
R430	EP14X131	1meg ohm, 10%, 1/4W, Carbon
★R434	EP14X329	200 ohm, 5%, 1/4W, Carbon
★R436	EP14X329	200 ohm, 5%, 1/4W, Carbon
★R438	EP14X318	220 ohm, 5%, 1/8W, Carbon
R454	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R456	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R458	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
★R464	EP14X381	3K ohm, 5%, 1/4W, Carbon
★R466	EP14X381	3K ohm, 5%, 1/8W, Carbon
★R468	EP14X381	3K ohm, 5%, 1/4W, Carbon
★R484	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★R486	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★R488	EP14X231	12K ohm, 5%, 2W, Metal Oxide

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R444	EP49X469	Red Drive, 150 ohm, 20%
R446	EP49X469	Green Drive, 150 ohm, 20%
R448	EP49X469	Blue Drive, 150 ohm, 20%
R474	EP49X470	Red Cut Off, 5K ohm, 20%
R476	EP49X470	Green Cut Off, 5K ohm, 20%
R478	EP49X470	Blue Cut Off, 5K ohm, 20%

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q404	EP15X61	RED DRIVE-NPN, Silicon
Q406	EP15X61	GREEN DRIVE-NPN, Silicon
Q408	EP15X61	BLUE DRIVE-NPN, Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L403	ES36X82	CHOKE-220uh, 10%

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL4	EP8X91	CONNECTOR-8 Pos.
	★EP34X69	SOCKET-CRT
	EP2X1	TERMINAL-Speaker Lead Type

HORIZ HEAT SINK CIRCUIT BOARD

EP93X536

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
★C1901	ES18X13	330pf, 20%, 2KV, Cer. Disc
★C1903	EP25X185	.01uf, 5%, 1.5KV, Polypropylene
★C1904	EP25X152	.1uf, 10%, 200V Polypropylene
C1905	EP25X91	.47uf, 10%, 400V, Polyester
C1907	EP18X217	330pf, 20%, 500V, Cer. Disc
C1909	EP25X151	2700pf, 10%, 100V, Mylar
C1915	EP25X151	2700pf, 10%, 200V, Mylar

(CONTINUED)

19 PC-F/H Parts List (Cont.)

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R1901	EP14X322	100 ohm, 10%, 5W, Wirewound
R1907	EP14X187	100 ohm, 5%, 1/2W, Carbon
R1911	EP14X128	330 ohm, 5%, 1/2W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	HORIZ CENTERING-500 ohm, 10%

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	HORIZ OUTPUT-NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y1903	EP57X5	Rectifier, 400V
Y1905	EP57X5	Rectifier, 400V
Y1907	EP57X5	Rectifier, 400V

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
★ L1901	EP36X443	COIL-Width
L1903	EU36X536	CHOK-5.6uh, 10%
★ L1905	EP36X456	COIL-Linearity

MISCELLANEOUS

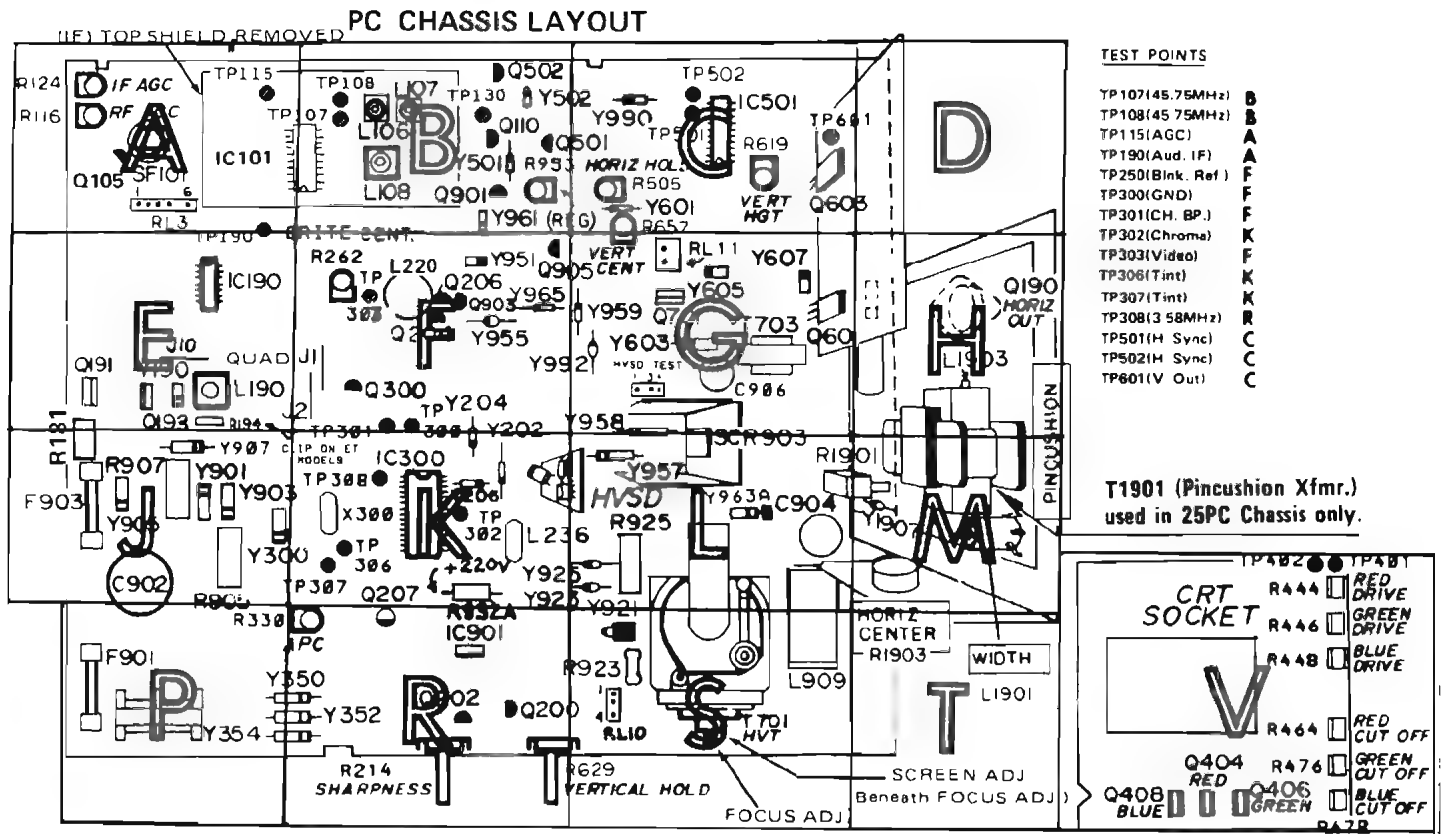
REF. NO.	PART NO.	DESCRIPTION
FB1901	EP12X2	BEAD-Shield
FB1903	EP12X2	BEAD-Shield
	EU3X532	CLIP-Ground
	EP3X52	SPACER-Q1901

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

PC CHASSIS LAYOUT

BOXED RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR ADJUSTMENTS, COMPONENTS, AND TEST POINTS LOCATION (see PC Chassis Layout below).



19PC-J Parts List (Cont.)

R623	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R625	EP14X220	180 ohm, 5%, 1/4W, Carbon
R627	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R631	EP14X456	6.8K ohm, 5%, 1/4W, Carbon
R633	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R635	EP14X220	180 ohm, 5%, 1/8W, Carbon
R637	ES14X70	100 ohm, 5%, 1/4W, Carbon
R639	ES14X71	1K ohm, 5%, 1/4W, Carbon
R641	EP14X188	15 ohm, 5%, 1/2W, Carbon
★ R643	EP14X102	560 ohm, 5%, 1W, Metal Oxide
★ R645	EP14X102	560 ohm, 5%, 1W, Metal Oxide
★ R647	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R649	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R655	EP14X130	2.7k ohm, 5%, 1/2W, Carbon
★ R702	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
★ R703	EP14X348	.47 ohm, 5%, 2W, Metal Oxide
★ R707	EP14X62	1.5K ohm, 5%, 2W, Metal Oxide
★ R900	EP14X106	1 meg ohm, 5%, 1/2W, Carbon
★ R901	EP14X113	THERMISTER
R903	EP14X105	100K ohm, 5%, 1/2W, Carbon
★ R905	EP14X317	1.5 ohm, 10%, 5W, Wirewound
★ R907	EP14X317	1.5 ohm, 10%, 5W, Wirewound
★ R921	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R923	ES14X79	1 ohm, 5%, 1/2W, Flame Proof
★ R925	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
★ R927	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R929	EP14X210	.82 ohm, 5%, 1W, Metal Oxide
R932	EP14X378	120 ohm, 5%, 1/4W, Carbon
R932A	EP14X378	120 ohm, 5%, 1/4W, Carbon
R933	EP14X403	220K ohm, 5%, 1/2W, Carbon
★ R935	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
★ R936	EU13X4	1K ohm, 5%, 1/2W, Carbon
★ R937	EP14X287	4.7 ohm, 5%, 1W, Metal Oxide
R939	EP14X187	100 ohm, 5%, 1/2W, Carbon
★ R941	EP14X54	18 ohm, 5%, 2W, Metal Oxide
R951	EP14X320	68K ohm, 2%, 1W, Metal Oxide
R952	EP14X457	1.8 meg, ohm, 5%, 1/4W, Carbon
R954	EP14X105	100K ohm, 5%, 1/4W, Carbon
R955	EP14X252	3.9K ohm, 2%, 1/8W, Carbon
R957	EP14X284	1K ohm, 5%, 1/8W, Carbon
R959	EP14X284	1K ohm, 5%, 1/8W, Carbon
R961	ES14X71	1K ohm, 5%, 1/4W, Carbon
R963	EP14X318	220 ohm, 5%, 1/4W, Carbon
R965	EP14X394	6.2K ohm, 5%, 1/8W, Carbon
R969	ES14X56	33 ohm, 5%, 1/2W, Carbon
R971	EP14X128	330 ohm, 5%, 1/2W, Carbon
R973	ES14X58	470 ohm, 5%, 1/2W, Carbon
★ R975	EP14X275	1K ohm, 10%, 3W, Wirewound
R981	EP14X318	3 ohm, 10%, 5W, Wirewound
★ R983	EP14X368	1.6K ohm, 5%, 1W, Metal Oxide
R985	EP14X396	240 ohm, 5%, 1/8W, Carbon
R990	EP14X443	110 ohm, 5%, 1/2W, Metal Oxide
R996	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R998	EP14X398	15K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R116	EP49X463	RF/AFC, 5K ohm, 20%
R124	EP49X463	IF/AGC, 5K ohm, 20%
R214	EP49X464	Sharpness, 1K ohm, 20%
R262	EP49X463	Brightness, 5K ohm, 20%
R330	EP49X465	APC, 50K ohm, 20%
R505	EP49X463	Horiz. Hold, 5K ohm, 20%
R619	EP49X466	Vert. Height, 250 ohm, 20%
R629	EP49X467	Vert. Hold, 10K ohm, 20%
R657	EP49X465	Vert. Centering, 50K ohm, 20%
R953	EP49X468	Reg., 1K ohm, 20%

INTERGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
	EP62X167	HVSD-Thick Film
IC101	EP84X213	VIF/Det/AFC
IC190	EP84X216	IF/Sound
IC300	EP84X221	Chroma/Video
IC501	EP84X215	Sync. Sep.
IC901	EP84X217	12V, 3 Ter. Regulator

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
SCR903	EP15X217	SCR Regulator, PNP
Q105	EP15X104	Pre Amp, HF, BiPolar
Q110	EP15X87	Video Emitter Follower NPN, Silicon
Q188	EP15X88	NPN, Silicon
Q191	EP15X226	NPN, Silicon
Q193	EP15X222	PNP, Silicon
Q200	EP15X88	Regulator, NPN, Silicon
Q202	EP15X48	Beam Limiter, PNP, Silicon
Q204	EP15X88	Video Amp, NPN, Silicon
Q207	EP15X225	Video Amp, PNP, Silicon
Q300	EP15X226	Burst Gate, NPN, Silicon
Q501	EP15X86	NPN, Silicon
Q502	EP15X87	NPN, Silicon
Q601	EP15X105	Vertical Output, NPN, Silicon
Q603	EP15X105	Vertical Driver, NPN, Silicon
Q701	EP15X123	Horizontal Driver, NPN, Silicon
Q901	EP15X88	Error Amp, NPN, Silicon
Q903	EP15X91	Regulator Control, NPN, Silicon
Q905	EP15X225	Regulator Trigger, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y190	ES16X27	Silicon
Y202	ES16X27	Silicon
Y204	ES16X27	Silicon
Y206	ES16X27	Silicon
Y300	EP16X3	GER.
Y350	EP16X58	17 Volt, Zener
Y352	EP16X58	17 Volt, Zener
Y354	EP16X58	17 Volt, Zener
Y502	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP57X4	Rectifier, Silicon
Y605	EP57X4	Rectifier, Silicon
Y607	EP57X4	Rectifier, Silicon
Y609	EP57X4	Rectifier, Silicon
Y901	EP57X4	Rectifier, Silicon
Y903	EP57X4	Rectifier, Silicon
Y905	EP57X4	Rectifier, Silicon
Y907	EP57X4	Rectifier, Silicon
Y921	EP16X149	Rectifier, Fast Recovery
Y923	EP16X154	Rectifier, Silicon
Y925	EP57X5	Rectifier, Silicon
Y931	EU16X11	Silicon
Y932	EU16X11	Silicon
Y939	EP57X4	Rectifier, Silicon
Y951	EP16X19	5.6 Volt, Zener
Y954	ES16X27	Silicon
Y955	EP57X5	Rectifier, Silicon
★ Y957	EP16X148	36 Volt, Zener
★ Y958	EP16X148	36 Volt, Zener

(CONTINUED)

19PC-J Parts List (Cont.)

Y959	ES16X27	Silicon
Y961	ES16X27	Silicon
Y963A	EP16X154	Rectifier, Silicon
Y965	EU16X11	Silicon
Y990	ES16X27	Silicon
Y991	EP57X4	Rectifier, Silicon
Y992	EP57X5	Rectifier, Silicon

RGB CIRCUIT BOARD

EP93X550

COILS AND TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
CF100	EP41X126	FILTER-Ceramic, 4.5mhz, Audio
CF105	EP41X143	CERAMIC TRAP-4.5mhz
CF212	EP41X153	TRAP-Ceramic, 3.58mhz
L102	EP36X442	CHOKE-.82uh, 10%
L106	EP36X433	COIL-45.75mhz, Molded
L107	EP36X433	COIL-45.75mhz, Molded
L108	EP36X468	COIL-IF & 41.25mhz, Trap
L150	EP36X136	CHOKE-15uh, 5%
L180	EP36X144	CHOKE-27uh, 5%
L190	EP36X435	COIL-Quad.
L200	EP36X314	CHOKE-30uh, 10%
L204	EP36X17	CHOKE-150uh, 10%
L212	EP36X136	CHOKE-15uh, 5%
L220	EP36X459	COIL-Delay Line
L236	EP36X136	CHOKE-15uh, 10%
L300	EP36X23	CHOKE-12uh, 5%
L320	EP36X33	CHOKE-56uh, 5%
L321	EP36X33	CHOKE-56uh, 5%
L322	EP36X33	CHOKE-56uh, 5%
★ L703	EP36X437	CHOKE-Filament, H.V. Tuning
★ L901	EP36X440	COIL-Line Choke Filter
L903	EP36X436	COIL-Filament Choke
★ L909	EP36X441	CHOKE-3mh, Regulator
L921	EP36X477	CHOKE-82uh, 5%
L929	EP36X437	CHOKE-Filament, H.V. Tuning
SF101	EP41X152	WAVE FILTER
★ T701	EP77X64	TRANSFORMER-H.V.
★ T703	EP64X57	TRANSFORMER-Buffer
X300	EP41X10	CRYSTAL-Quartz

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP60X13	AIR GAP-For H. V. T.
	EP8X36	ANODE-CRT Cap
	EP2X539	BRACKET-HVT Support, Plastic
	EP3X7	CLIP-Fuse, F901/F903 (4 Used)
★	EP66X19	CORD-AC Power Polarized, Wired-In-Type
	FB921	FERRITE BEAD
	FB963A	FERRITE BEAD
★ F901	EP10X19	FUSE-4amp, 250V, Snap-In, Fast Acting
★ F903	EP10X57	FUSE-1.25amp, 250V, Snap-In, Med Acting
	EP3X38	WASHER-Shoulder, SCR903, Q601 Q603

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C403	EP18X26	.01uf, +80-20%, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C406	EP18X270	1000pf, 20%, 50V, HiK, Cer. Disc
C408	EP18X205	560pf, 20%, 50V, HiK, Cer. Disc
C410	EP18X74	330pf, 20%, 50V, HiK, Cer. Disc
C490	EP18X267	4700pf, +80-20%, 2KV, SHiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R403	EP14X103	10K ohm, 5%, 1/4W, Carbon
R404	EP14X289	430 ohm, 5%, 1/4W, Carbon
R405	ES14X59	560 oh, 5%, 1/4W, Carbon
★ R411	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
★ R413	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
R414	EP14X128	330 ohm, 5%, 1/4W, Carbon
★ R415	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
R416	EP14X128	330 ohm, 5%, 1/4W, Carbon
R418	EP14X128	330 ohm, 5%, 1/4W, Carbon
★ R419	EP14X38	3.3K ohm, 5%, 1/4W, Carbon
★ R424	ES14X70	100 ohm, 5%, 1/4W, Carbon
★ R426	ES14X70	100 ohm, 5%, 1/4W, Carbon
★ R428	ES14X70	100 ohm, 5%, 1/8W, Carbon
R430	EP14X131	1meg ohm, 10%, 1/4W, Carbon
★ R434	EP14X329	200 ohm, 5%, 1/4W, Carbon
★ R436	EP14X329	200 ohm, 5%, 1/4W, Carbon
★ R438	EP14X318	220 ohm, 5%, 1/8W, Carbon
R454	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R456	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R458	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
★ R464	EP14X381	3K ohm, 5%, 1/4W, Carbon
★ R466	EP14X381	3K ohm, 5%, 1/8W, Carbon
★ R468	EP14X381	3K ohm, 5%, 1/4W, Carbon
★ R484	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★ R486	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★ R488	EP14X231	12K ohm, 5%, 2W, Metal Oxide

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R444	EP49X469	Red Drive, 150 ohm, 20%
R446	EP49X469	Green Drive, 150 ohm, 20%
R448	EP49X469	Blue Drive, 150 ohm, 20%
R474	EP49X470	Red Cut Off, 5K ohm, 20%
R476	EP49X470	Green Cut Off, 5K ohm, 20%
R478	EP49X470	Blue Cut Off, 5K ohm, 20%

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q404	EP15X61	RED DRIVE-NPN, Silicon
Q406	EP15X61	GREEN DRIVE-NPN, Silicon
Q408	EP15X61	BLUE DRIVE-NPN, Silicon

(CONTINUED)

19PC J Parts List Cont.

COIL

REF. NO.	PART NO.	DESCRIPTION
L403	ES36X82	CHOKE-220uh, 10%

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
★ RL4	EP8X91	CONNECTOR-8 Pos.
	EP34X69	SOCKET-CRT
	EP2X1	TERMINAL-Speaker Lead Type

HORIZ HEAT SINK CIRCUIT BOARD

EP93X536

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
★ C1901	ES18X13	330pf, 20%, 2KV, Cer. Disc
★ C1903	EP25X185	.01uf, 5%, 1.5KV, Polypropylene
★ C1904	EP25X152	.1uf, 10%, 200V Polypropylene
C1905	EP25X91	.47uf, 10%, 400V, Polyester
C1907	EP18X217	330pf, 20%, 500V, Cer. Disc
C1909	EP25X151	2700pf, 10%, 100V, Mylar
C1915	EP25X151	2700pf, 10%, 200V, Mylar

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R1901	EP14X322	100 ohm, 10%, 5W, Wirewound
R1907	EP14X187	100 ohm, 5%, 1/2W, Carbon
R1911	EP14X128	330 ohm, 5%, 1/2W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	HORIZ CENTERING-500 ohm, 10%

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	HORIZ OUTPUT-NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y1903	EP57X5	Rectifier, 400V
Y1905	EP57X5	Rectifier, 400V
Y1907	EP57X5	Rectifier, 400V

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
★ L1901	EP36X443	COIL-Width
L1903	EU36X536	CHOKE-5.6uh, 10%
★ L1905	EP36X456	COIL-Linearity

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
FB1901	EP12X2	BEAD-Shield
FB1903	EP12X2	BEAD-Shield
	EU3X532	CLIP-Ground
	EP3X52	SPACER-Q1901

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

STC

TROUBLESHOOTING CHARTS



PC CHASSIS TECHNICAL SERVICING GUIDE

For Quick-Reliable Repairs

GENERAL  ELECTRIC

INDEX TO TROUBLESHOOTING CHARTS

1

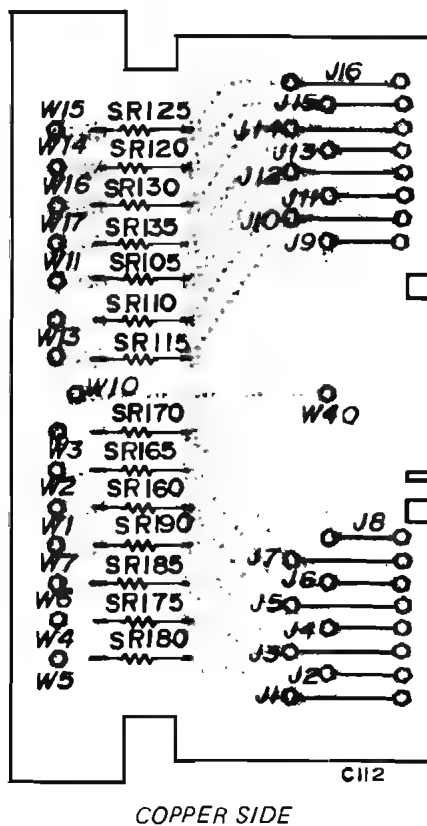
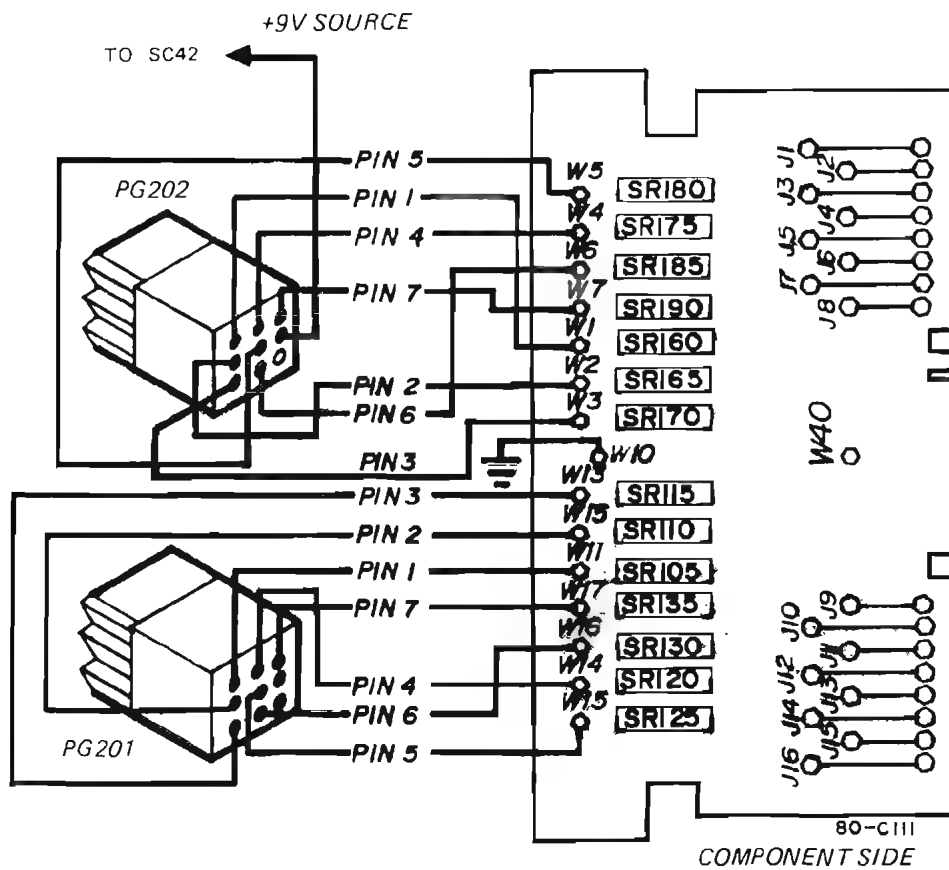
USE THE CHART FOR THE SYMPTOM THAT MOST CLOSELY APPROXIMATES THE CONDITION OF THE RECEIVER UNDER REPAIR.

SYMPTOM	PAGE NUMBER
NO RASTER/NO SOUND	(PC) 5-10
NO RASTER	(PC) 5-9
NORMAL SOUND	
NO VIDEO	(PC) 5-3
NORMAL RASTER	
SOUND MAY RANGE FROM NORMAL TO ENTIRELY MISSING	
NO SOUND	(PC) 5-5
NORMAL RASTER	
NORMAL VIDEO	
ABNORMAL SYNC	(PC) 5-7
NORMAL RASTER	
NORMAL SOUND	
NO VERTICAL SWEEP	(PC) 5-8
NO COLOR/ABNORMAL COLOR	(PC) 5-4
ABNORMAL GRAY SCALE	(PC) 5-6

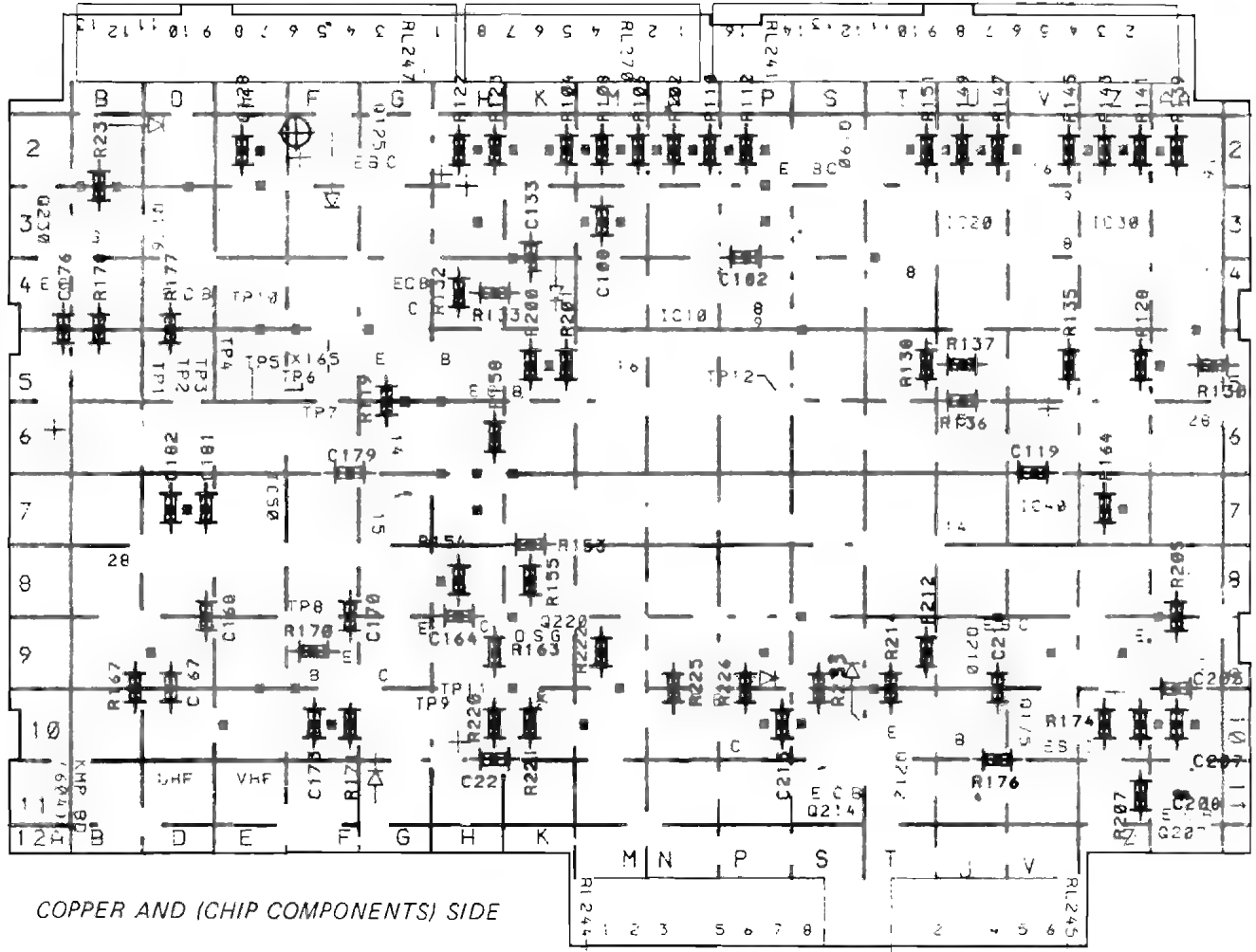
ET91 RESISTOR BOARD

EP93X294

M-S



KMP91 TUNER CONTROL MODULE (EP93X312) COMPONENT LOCATION



RED COLOR - GRID FOR COMPONENT LOCATION

IC'S		GRID LOCATION	
IC-10		4-5	M-N-P
IC-20		3	T-U-V
IC-30		3	Z-AA
IC-40		6-7-8	U-V-Z-AA
IC-50		6-7-8	B-D-F-G

COILS		GRID LOCATION	
L169	Servicing Coil	8	E
L179	15uh	6-7-8	B

CRYSTAL		GRID LOCATION	
X186		4-5	F

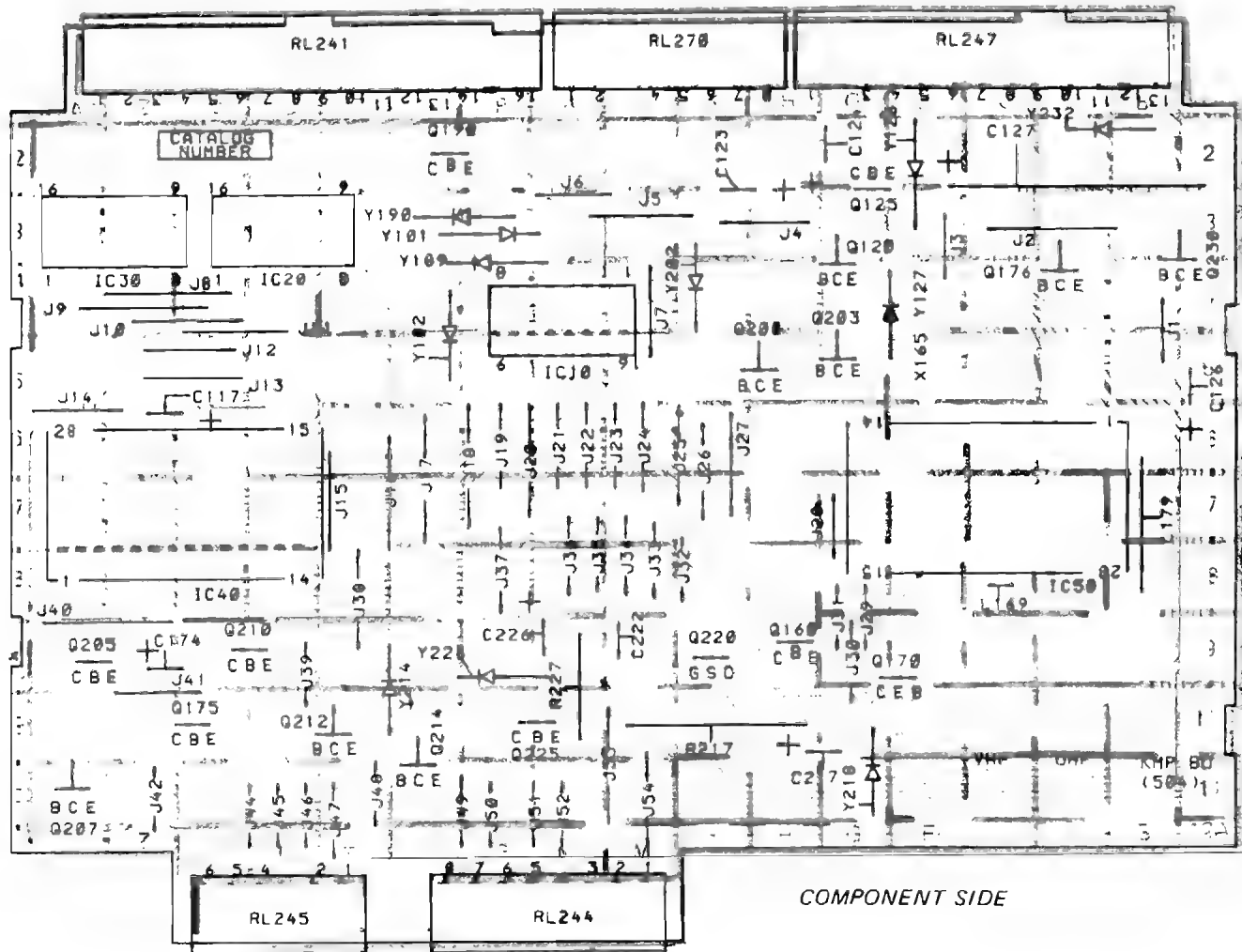
TEST PTS.		GRID LOCATION	
TP.1		8	D
TP.2		6	D
TP.3		8	D-E
TP.4		6	E
TP.5		8	E
TP.6		6	E
TP.7		8	F
TP.8		8	F
TP.9		10	G
TP.10		8	E
TP.11		8	H

CAPACITORS		GRID LOCATION	
C102	.022	3-4	P
C104	.022	3	M
C106	.022	3	M
C108	.022	3	M
C110	.022	3	P
C112	.022	2-3	P
C117	47uf 16V	8	Z
C119	100pf	6-7	V
C123	4.7uf 35V	2-3	H-K
C124	.88uf 16V Al.	2	G
C126	47uf 16V	5	A
C127	1000uf 25V	2-3	A-B-D-E-F
C128	.01	2	E
C133	.022	3-4	K
C184	100pf	8-9	H
C185	33pf	4-5	F
C186	24pf	4-5	E
C187	3pf	9-10	D
C188	.001	8-9	D
C189	.001	9-10	E
C170	1000uf	8-9	F
C171	.01	9	B-D
C172	.001	10	F
C174	4.7uf 35V	9	Z
C178	.01	4-5	A
C179	.01	6-7	F-G
C181	.001	7	D
C182	.001	7	D
C183	.01	7	D
C203	.022	5-6	H

CAPACITORS		GRID LOCATION	
C205	.01	9-10	AA
C207	.022	10	AA
C208	.022	10	Z
C210	.01	9-10	U
C213	.022	10	P
C215	.022	10	P
C217	10uf 35V	10-11	G-H
C221	.047	10-11	H-K
C222	.1	9	M
C223	.047	9	P
C228	10uf 50V	9	H

DIODES		GRID LOCATION	
Y127	9.1V Zener	4-5	F-G
Y128	Silicon	2-3	F
Y202	6.2V Zener	3-4	K
Y214	Signal	9-10	S-T
Y218	5.1V Zener	10-11	G
Y226	30V Zener	9	N-P-S
Y232	6.2V Zener	2	B-D

KMP91 TUNER CONTROL MODULE (EP93X312) COMPONENT LOCATION



RED COLOR = GRID FOR COMPONENT LOCATION

RESISTORS				GRID LOCATION			
R101	10K	2	N	R147	470	2	U
R102	47K	2	N	R148	470	2	U
R103	10K	2	N	R149	470	2	U
R104	47K	2	K	R150	470	2	U
R105	10K	2	M	R151	470	2	T
R106	47K	2	M	R152	470	2	T
R107	10K	2	M	R153	3.3K	7-8	K
R108	47K	2	M	R154	10K	8	H
R109	10K	2	N	R155	10K	8	K
R110	47K	2	N	R156	22K	8-9	H-K
R111	10K	2	P	R157	10K	8-7	H
R112	47K	2	P	R158	22K	8	H
R113	10K	2	P	R159	10K	8-7	H
R114	22K	4-5	S	R160	22K	8	H
R115	22K	3-4	S-T	R161	10K	7	H
R116	43K	5-6	G	R162	22K	8-7	K
R117	100K	3-4	K	R163	47K	9	H
R118	47K	3	H	R164	10K	7	Z
R119	100K	2	H	R165	33K	9-10	K
R120	270K	2	H	R166	100	9-10	B
R121	470K	2	H	R167	61	10	E
R122	47K	2	K	R168	91	9	F
R123	47K	2	K	R169	15K	10	F
R124	47K	2	K	R170	15K	10	F
R125	47K	2	K	R171	47K	9-10	F
R126	47K	2	K	R172	10K	10	Z
R127	47K	2	K	R173	10K	10	Z
R128	47K	2	K	R174	10K	10	Z
R129	47K	2	K	R175	10K	10	Z
R130	47K	2	K	R176	270K	10-11	U-V
R131	47K	2	K	R177	47K	4-5	B
R132	47K	2	K	R178	100K	4-5	B
R133	47K	2	K	R179	22K	2-3	D
R134	47K	2	K	R180	580	5	K
R135	47K	2	K	R181	10K	5	K
R136	47K	2	K	R182	1K	5	K
R137	47K	2	K	R183	47K	4-5	G
R138	47K	2	K	R184	5.8K	5-6	G
R139	47K	2	K	R185	22K	7	Z
R140	47K	2	K	R186	47K	8-9	AA
R141	47K	2	K	R187	5.8K	10	AA
R142	47K	2	K	R188	180K	11	Z
R143	47K	2	K	R189	100K	10	AA
R144	47K	2	K	R190	22K	8-9	AA
R145	47K	2	K	R191	47K	4-5	G
R146	47K	2	K	R192	5.8K	5-6	G
R147	47K	2	K	R193	22K	7	Z
R148	47K	2	K	R194	47K	8-9	AA

JUMPER	GRID LOCATION
J1	4-5 B
J2	3 B-D-E
J3	3-4 F
J4	3 H-K
J5	3 K-M-N
J6	3 M-N
J7	4-5 N
J8	4 V-Z-AA
J9	4 V
J10	4 V-Z
J11	4 U-V
J12	5 V-Z
J13	5 V-Z
J14	6 Z-AA
J15	6-7-8 T
J16	6-7 P
J17	6-7 P
J18	6-7 N
J19	6-7 N
J20	6-7 N
J21	6-7 N
J22	6-7 N
J23	6-7 M
J24	6-7 M
J25	6-7 K-M
J26	6-7 K-M
J27	6-7 K-M
J28	7-8 G
J29	8-9 G
J30	9-10 G
J31	8-9 G
J32	7-8 K
J33	7-8 M
J34	7-8 N
J35	7-8 N
J36	7-8 N
J37	7-8 N
J38	9-10 U
J39	9-10 U
J40	9-10 U
J41	1-2 V-Z
J42	11 Z
J43	11-12 V
J44	11-12 U
J45	11-12 U
J46	11-12 U
J47	11-12 S
J48	11-12 S
J49	11-12 P
J50	11-12 P
J51	11-12 P
J52	11-12 P
J53	11-12 P
J54	11-12 P

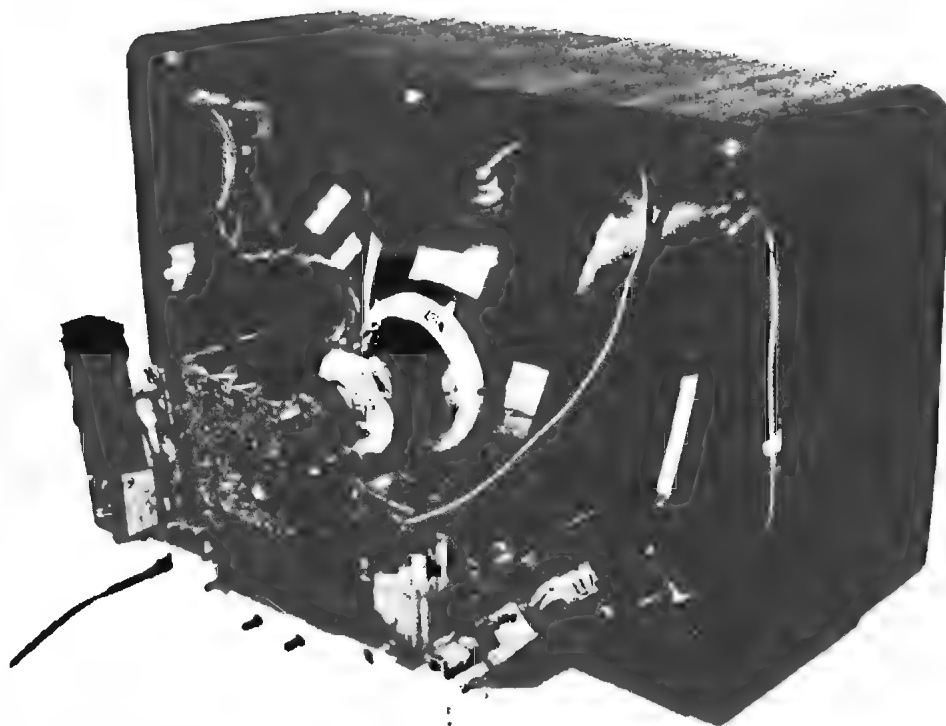
TRANSISTORS	GRID LOCATION
Q120	PNP 4 G
Q121	PNP 2-3 G
Q122	PNP 9 H
Q123	PNP 9-10 F-G
Q124	PNP 10 V-Z
Q125	PNP 4 D
Q126	PNP 5 H-K
Q127	PNP 5 S
Q128	PNP 9 AA
Q129	PNP 11 AA
Q130	PNP 9 U-V
Q131	PNP 10 T-U
Q132	PNP 11 S
Q133	PNP 9 K
Q134	PNP N-P
Q135	PNP 3-4 A-B



TROUBLESHOOTING GUIDE

COLOR TELEVISION

PC CHASSIS



INFORMATION FOR QUICK ACCURATE REPAIRS

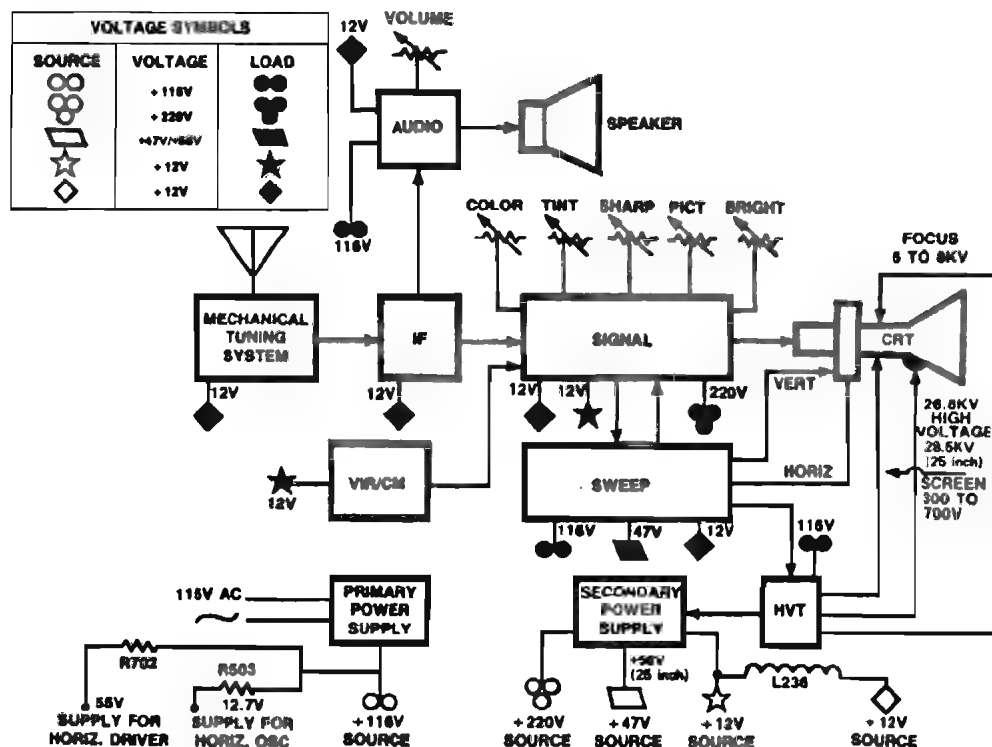
HOW TO USE THE FLOWCHARTS

Always use an isolation transformer when working on this receiver. Preset the Brightness, Picture and Color controls to the full clockwise position. Set the tint and volume controls to midrange. Locate the symptom of the receiver in the index above and turn to the flowchart indicated.

Begin at the top of the page and follow the arrows down the chart. Do not skip steps. The location of most components is shown on the circuit board diagram on the facing page. Once you are familiar with the procedure, the abbreviated flowchart can be used. This shows the steps explained in the flowchart on a partial schematic of the circuit.

In addition to the troubleshooting charts, there is also a symptom/cure section at the back of this booklet. Some common symptoms are listed along with the component number and part number likely to correct the symptom.

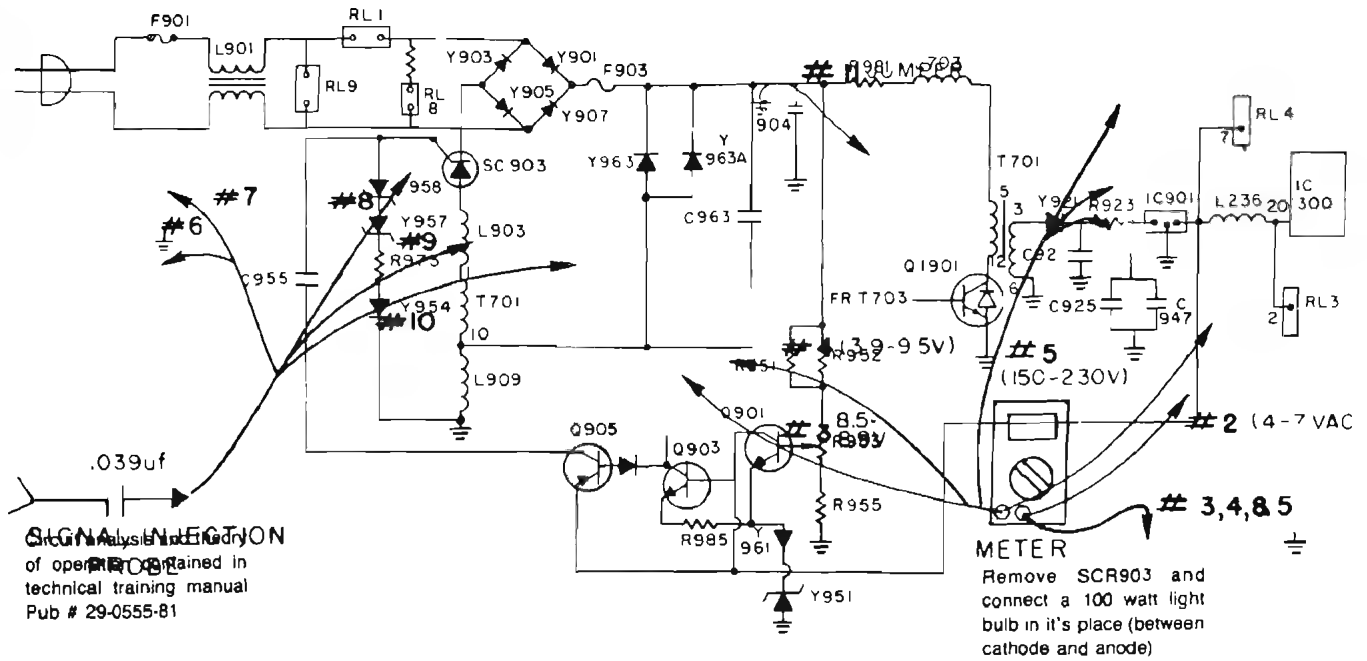
BLOCK DIAGRAM OF THE PC CHASSIS



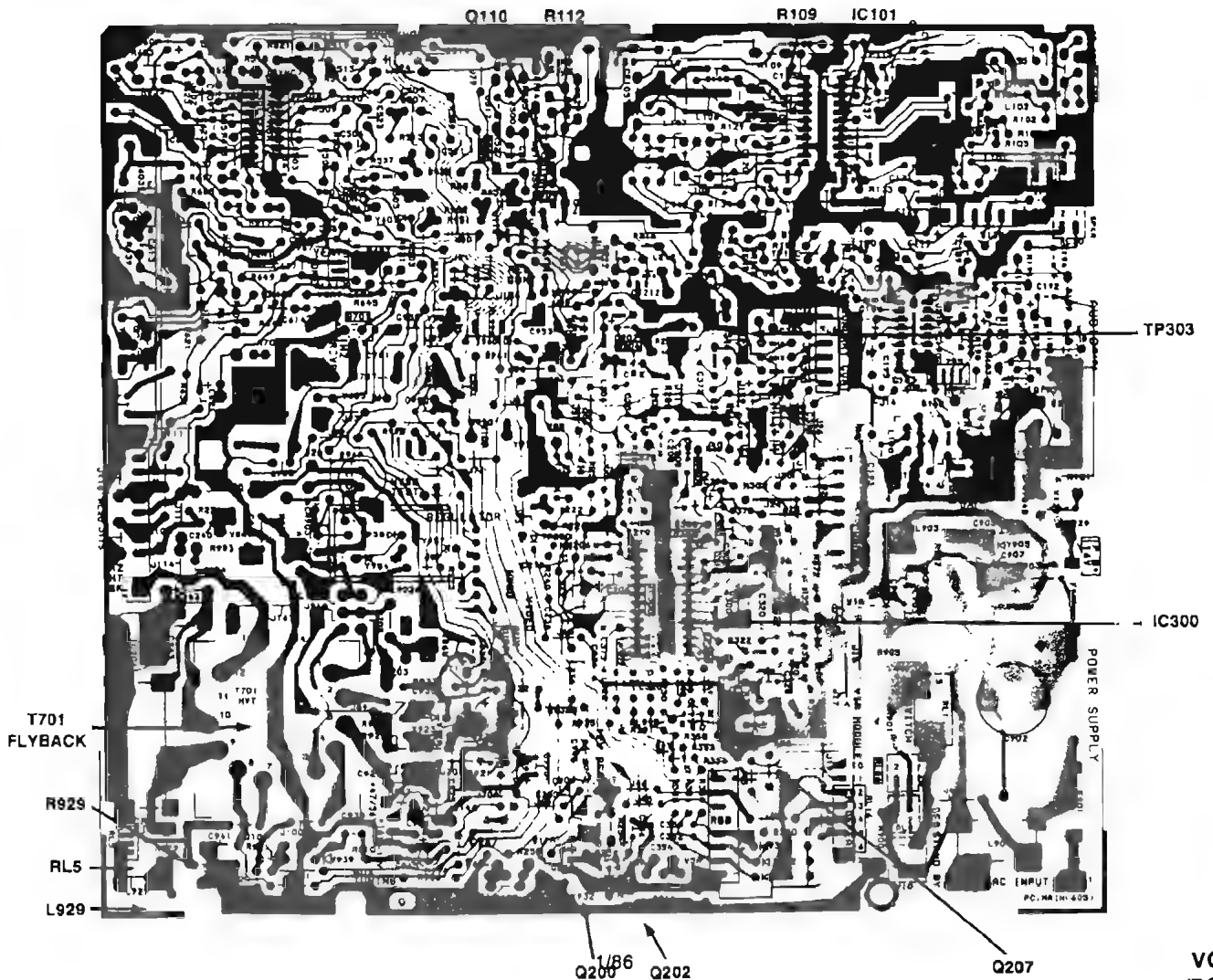
TROUBLESHOOTING CHART INDEX

SYMPTOM	CHART	PAGE
No raster, no sound - dead	Chart 1	5-4
Set comes on then goes off	Chart 1	5-4
No video, no color, audio OK	Chart 2	5-6
Blank raster, no video, audio or color	Chart 3	5-8
No video or poor video, audio OK	Chart 4	5-10
No color or wrong color, audio & video OK	Chart 5	5-12
Audio problem, video and color OK	Chart 6	5-14
Abnormal horiz. sweep - motorboating noise	Chart 7	5-16
Insufficient horiz. sweep	Chart 9	5-20
Vertical sweep problems	Chart 8	5-18
Sync problems	Chart 9	5-20
Symptom/cure information & part numbers		5-22





COMPONENT LOCATION (FOIL SIDE)



PC CHASSIS

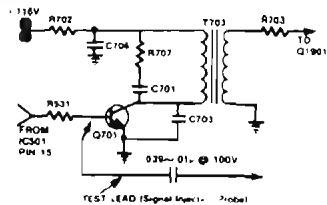


FIGURE 1

TEST LEAD IS A JUMPER WIRE WITH A .039 to .01 μ F 100 WVDC CAPACITOR IN SERIES

ATTACH ONE END TO BASE OF Q701. THE OTHER END WILL BE YOUR SIGNAL INJECTION PROBE.

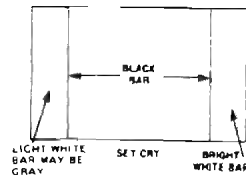
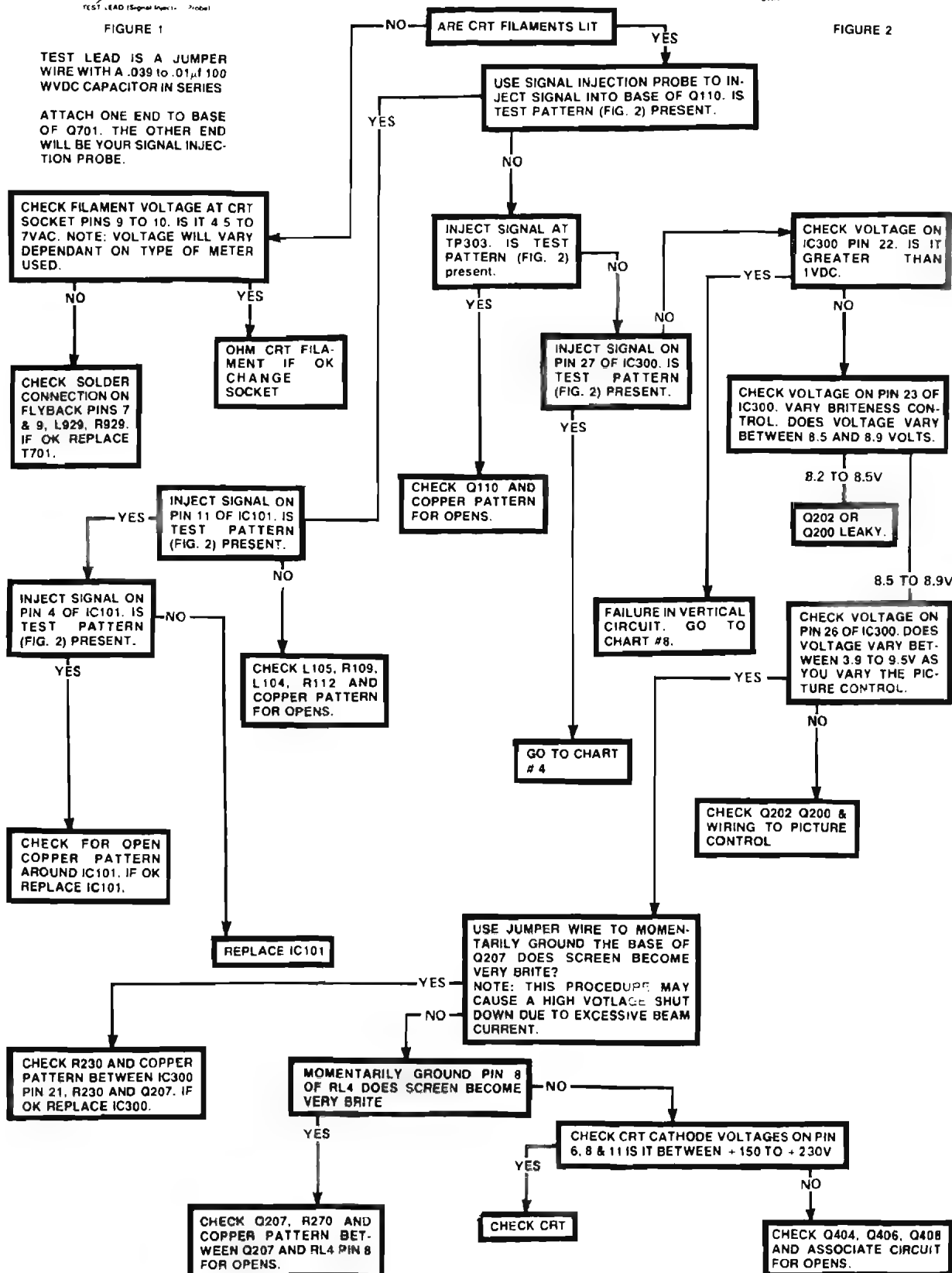
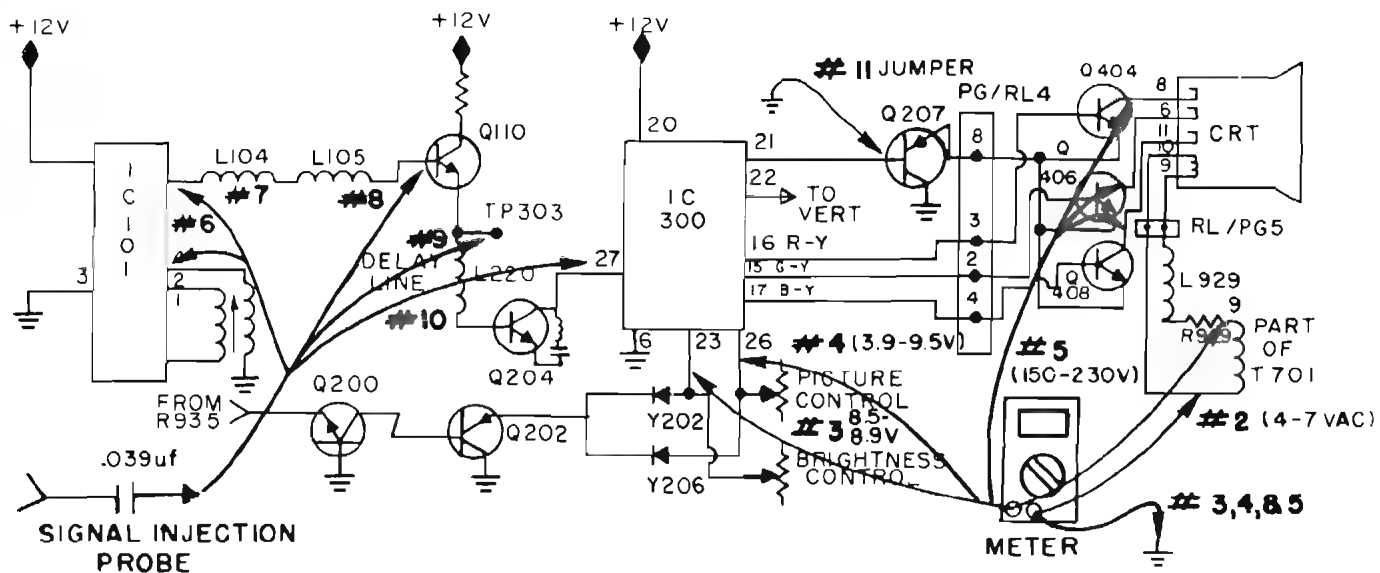


FIGURE 2



ABBREVIATED FLOW CHART

PC CHASSIS



Circuit analysis and theory of operation contained in technical training manual Pub # 29-0555-81

COMPONENT LOCATION (FOIL SIDE)

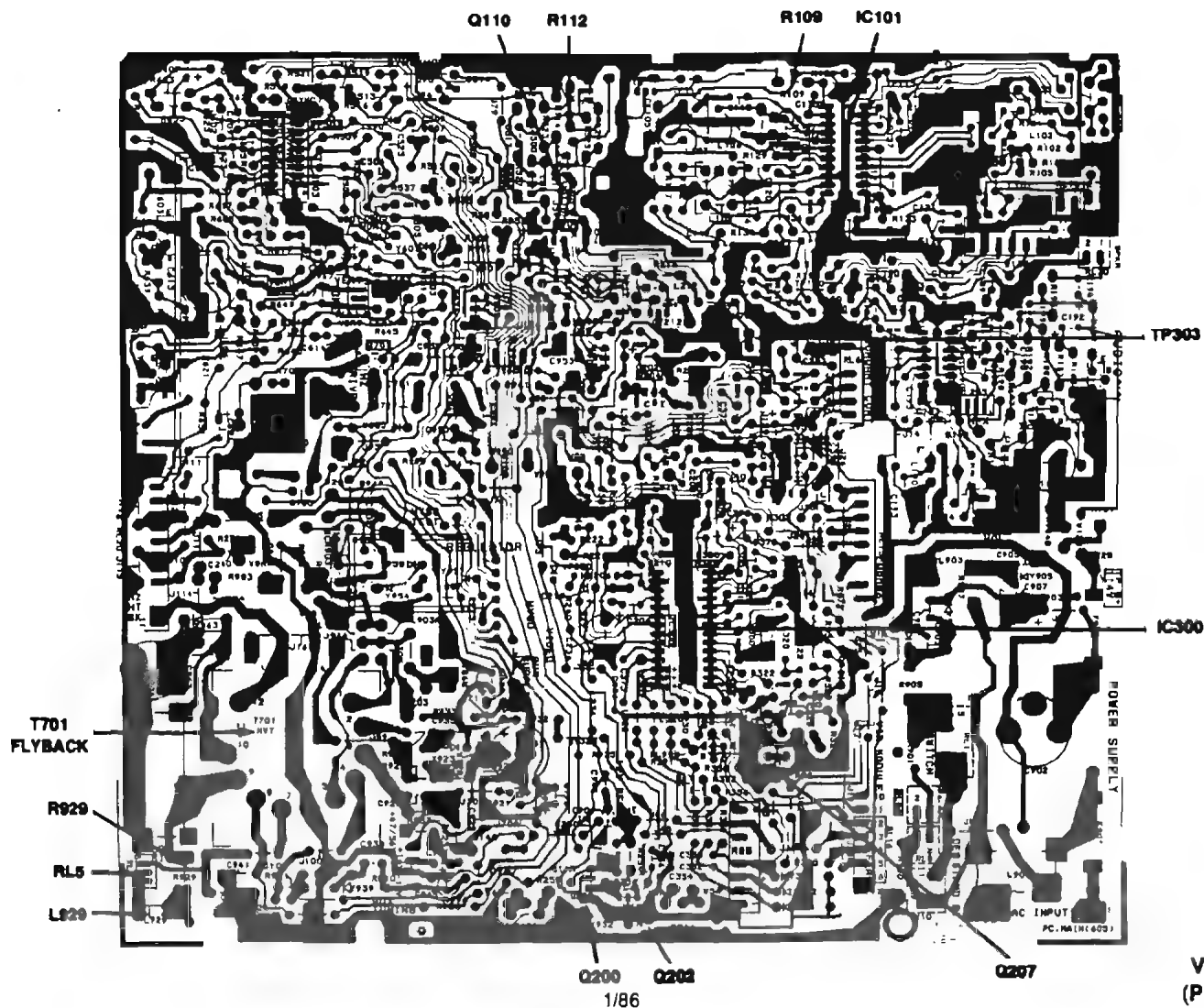
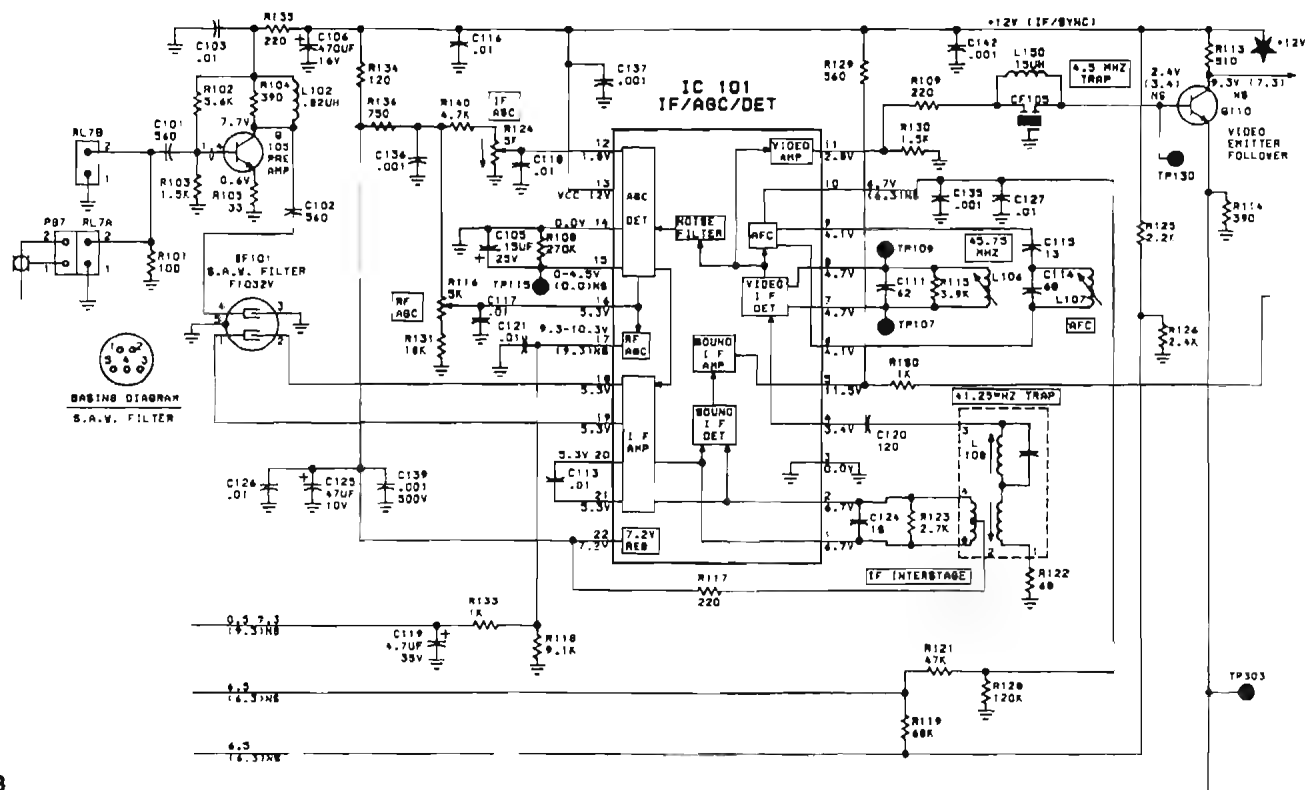
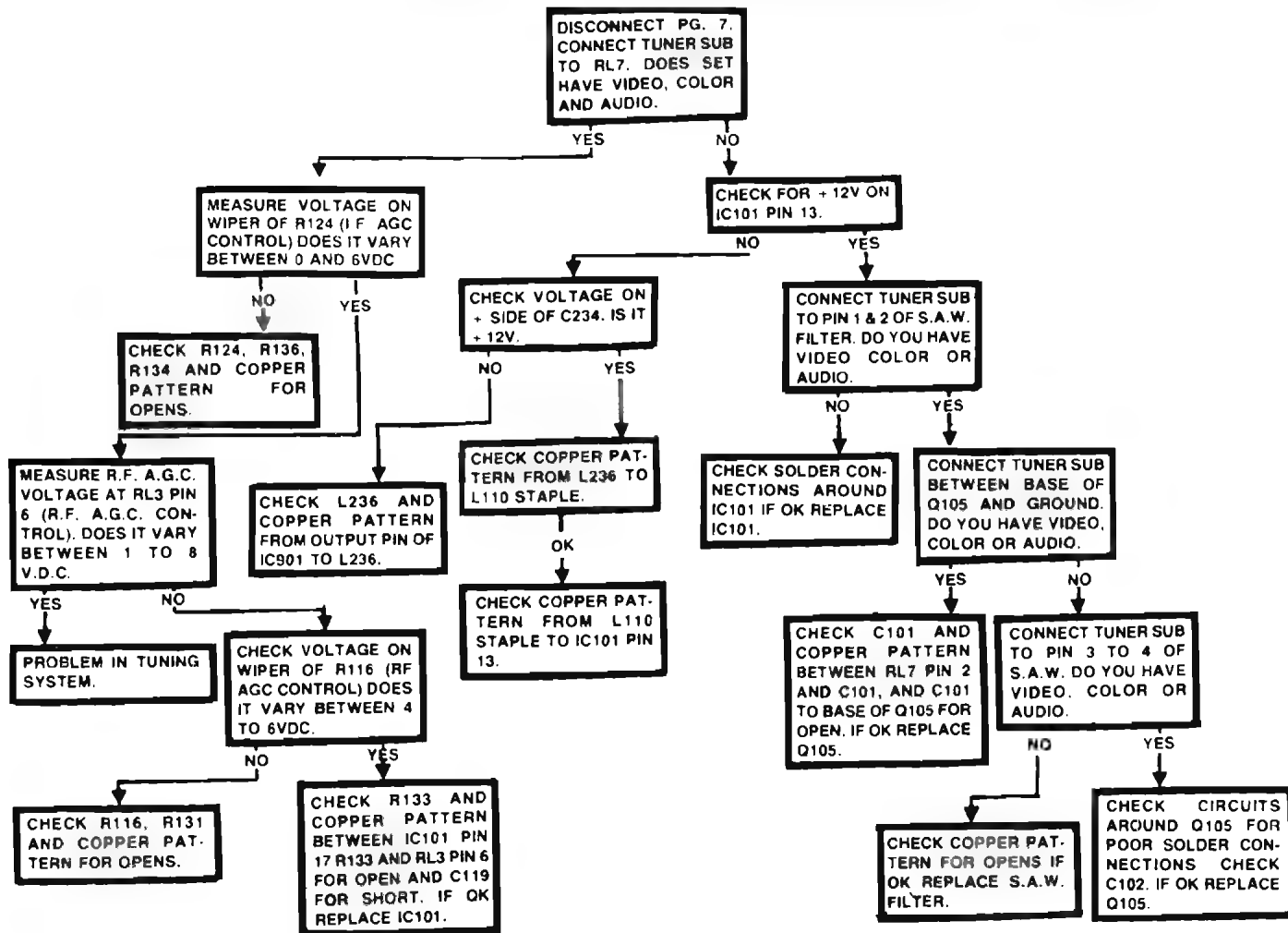
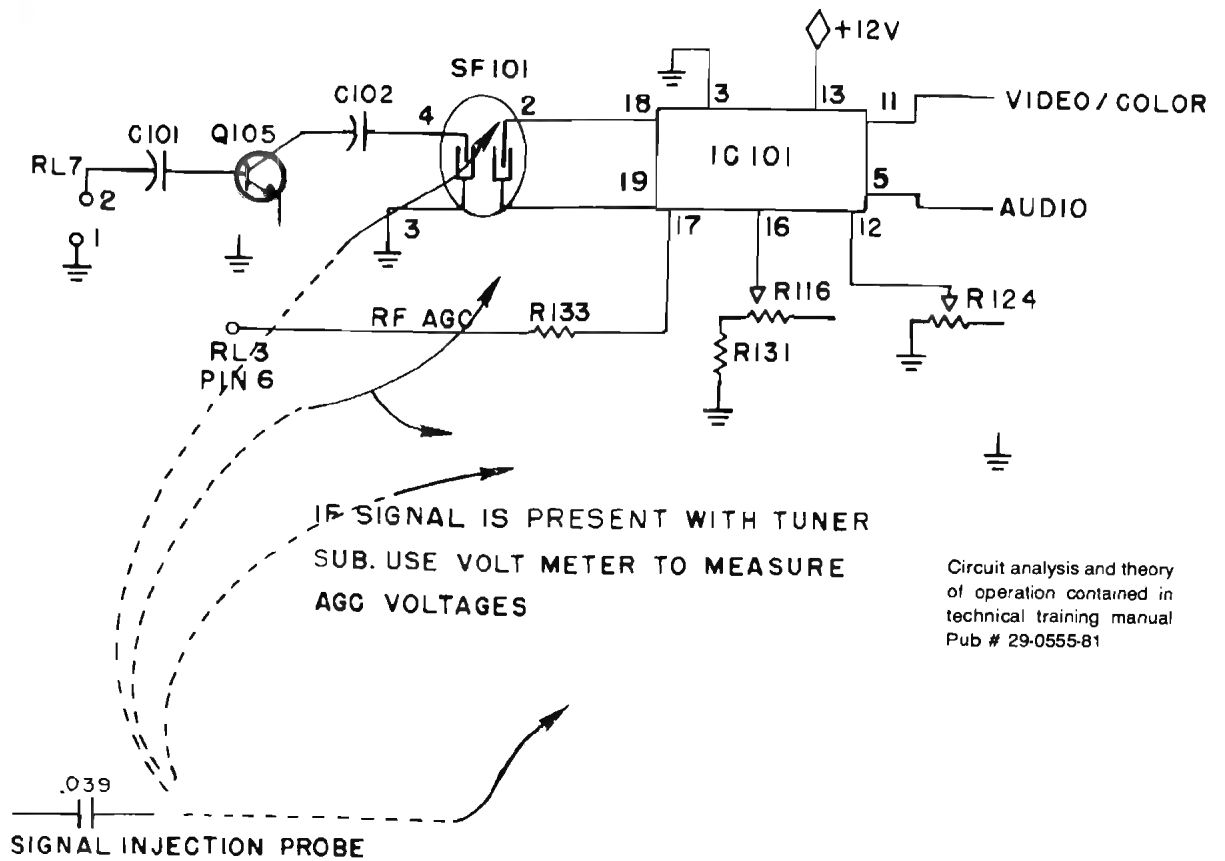


CHART #3 NO VIDEO, NO COLOR, NO AUDIO (SNOWY PICTURE)

PC CHASSIS



ABBREVIATED FLOW CHART



COMPONENT LOCATION (FOIL SIDE)

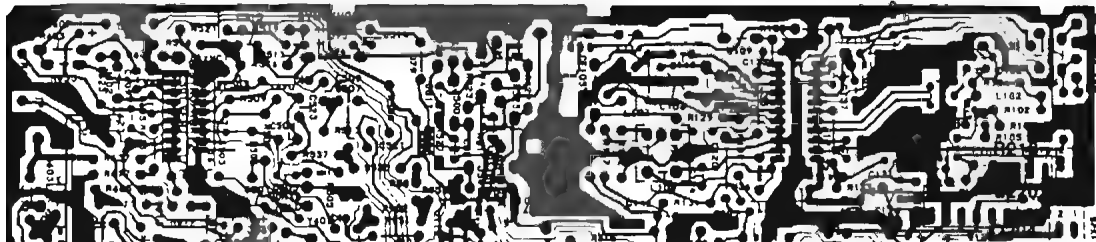


CHART #4 NO VIDEO, COLOR AND AUDIO ON

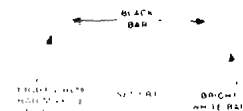
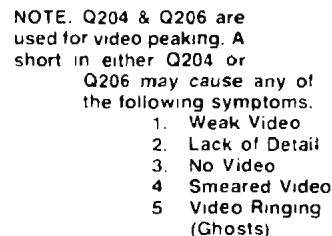
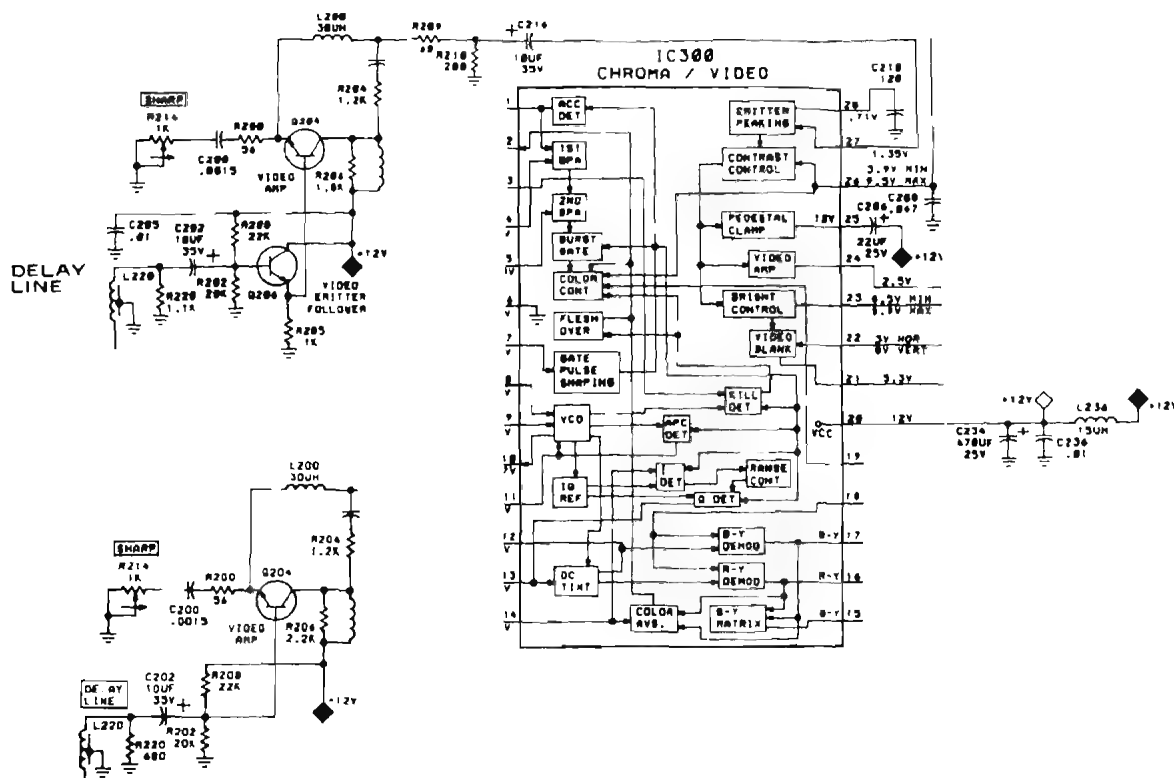


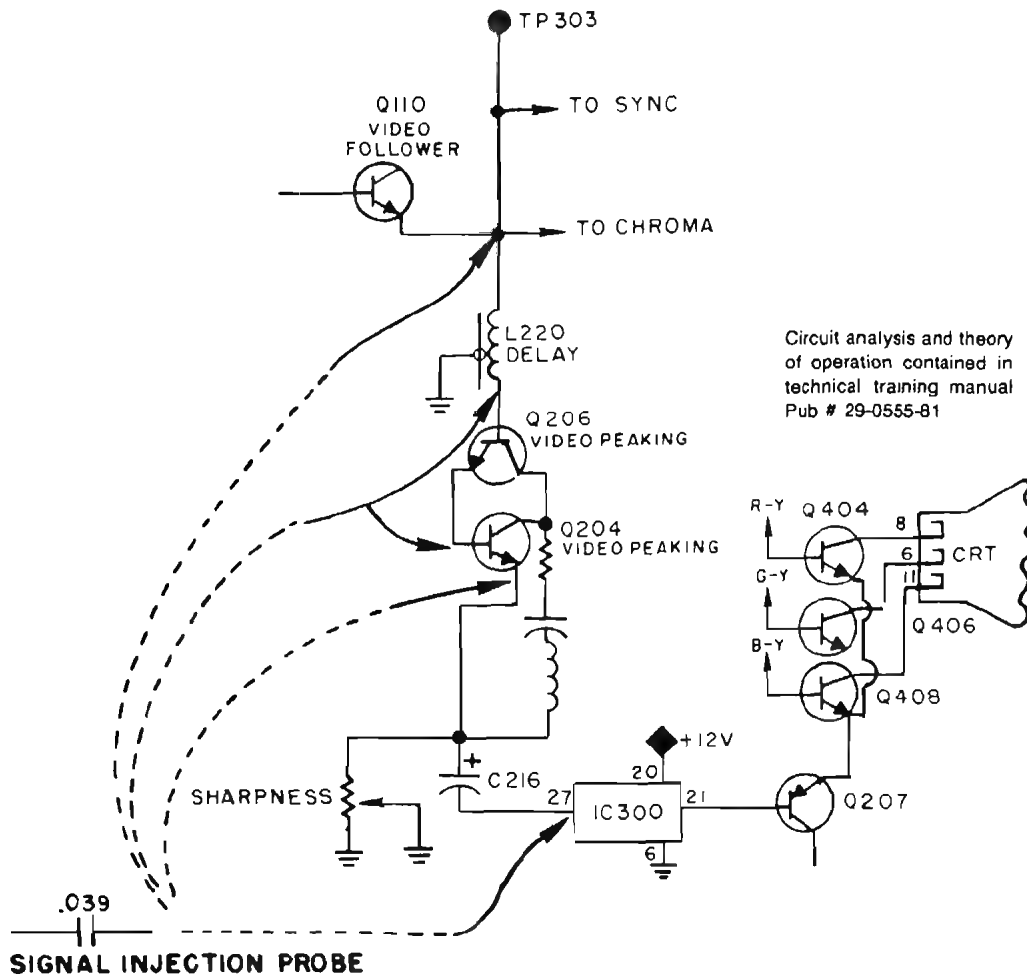
FIGURE 2

Attach one end to base of Q701. The other end will be your signal injection probe.

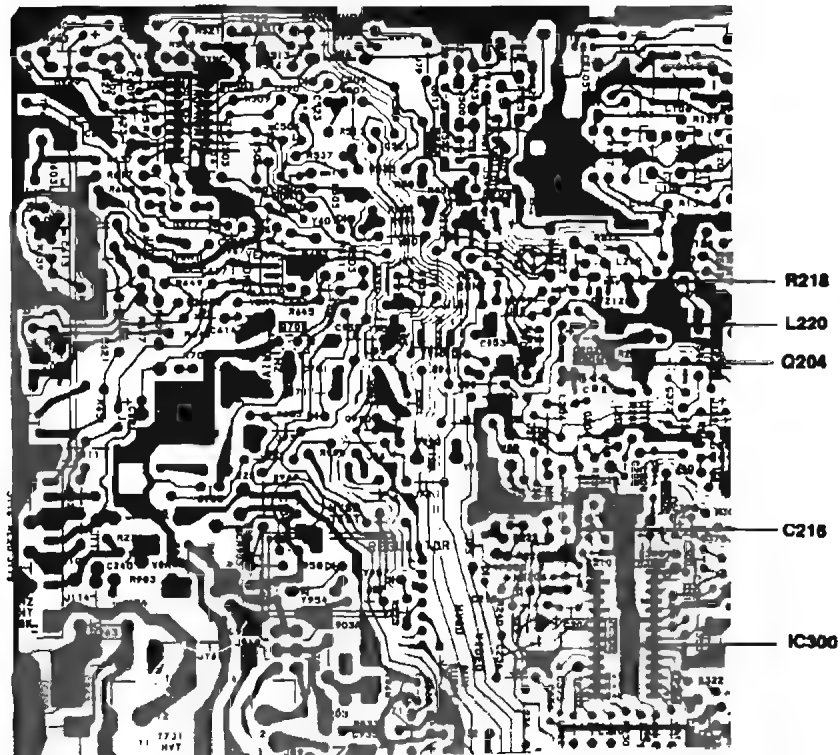


Simplified Flow Chart indicating signal inject points if Test Pattern is present when signal is injected at #1 go to #2 set. Till Test Pattern is lost. Check for opens or shorts at that point

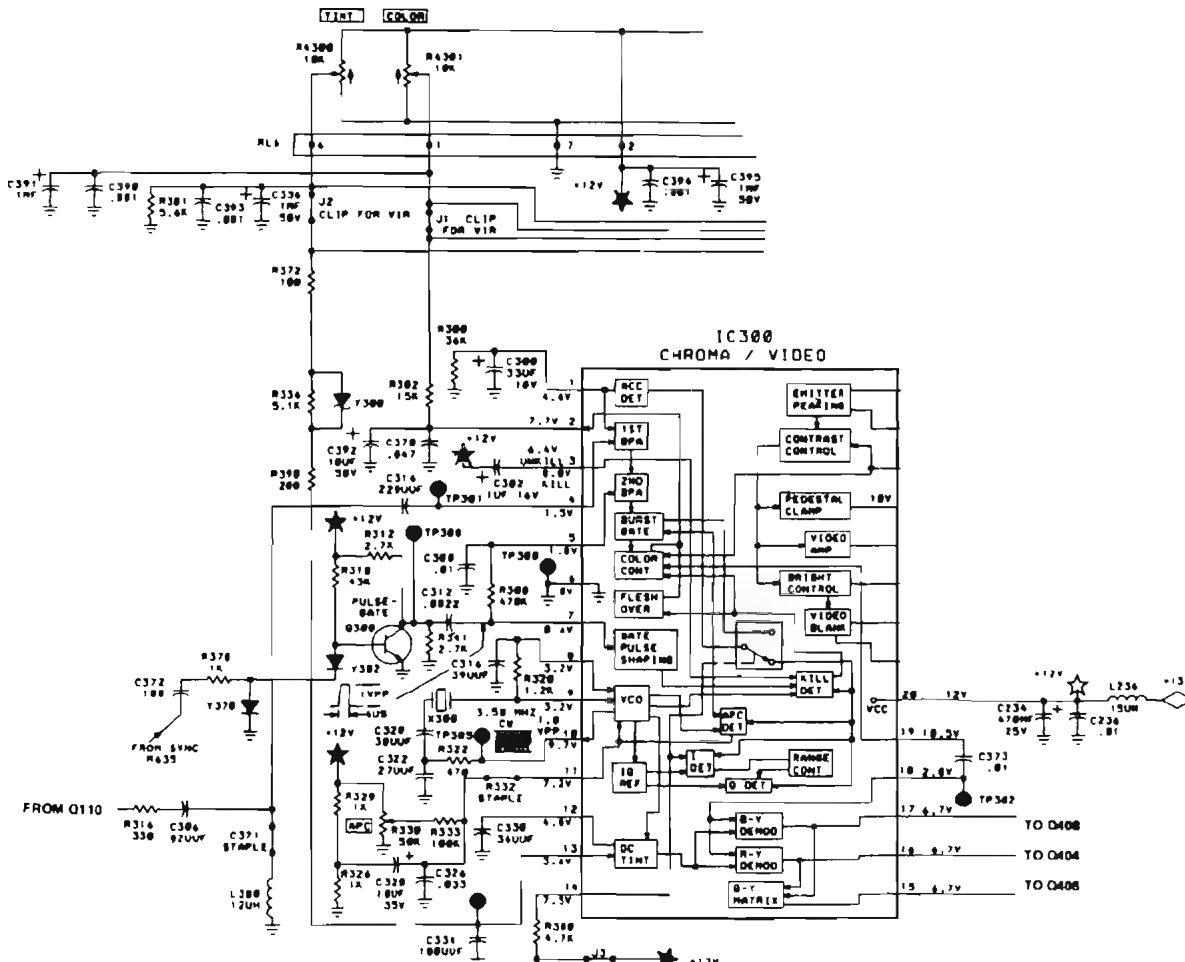
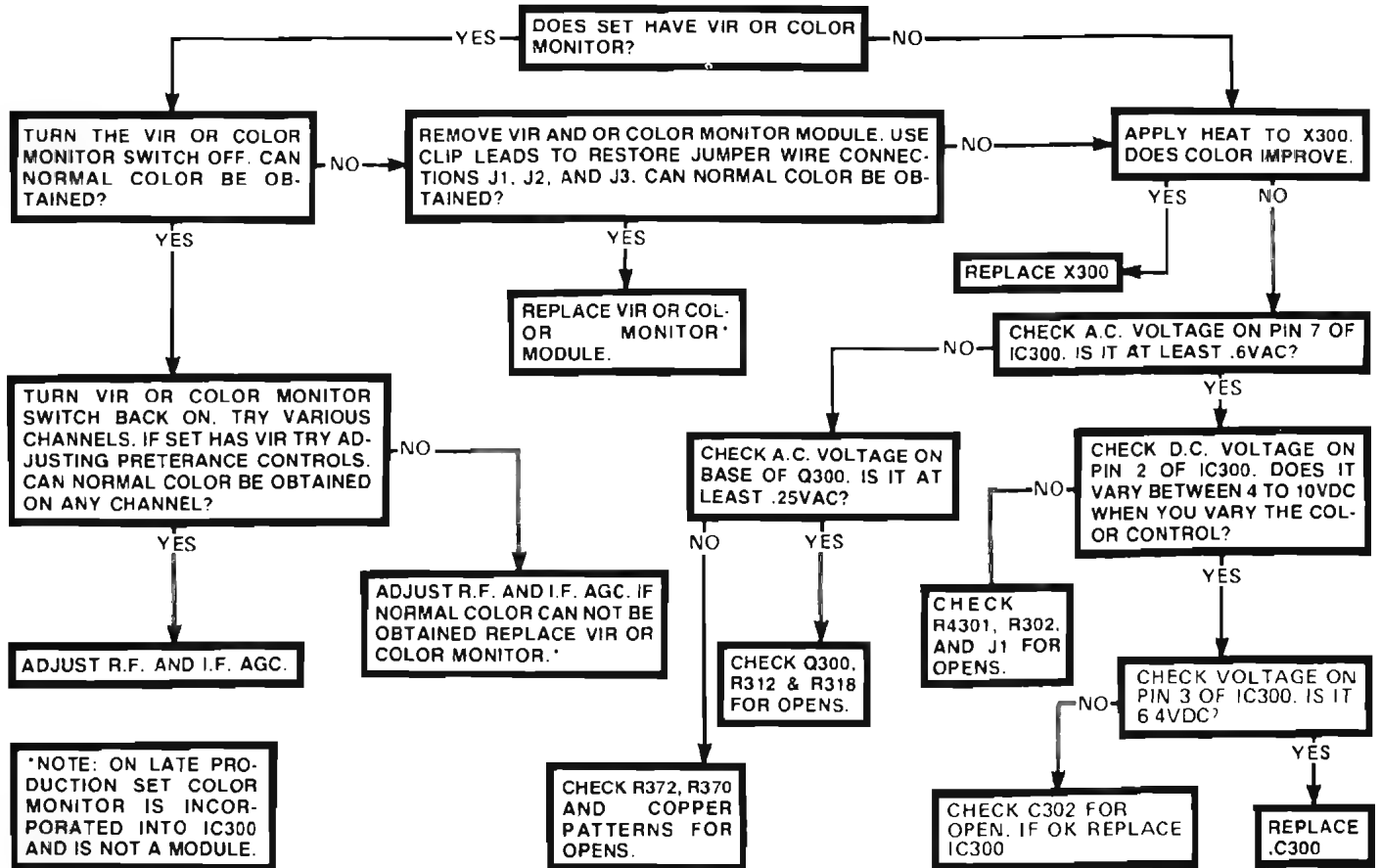




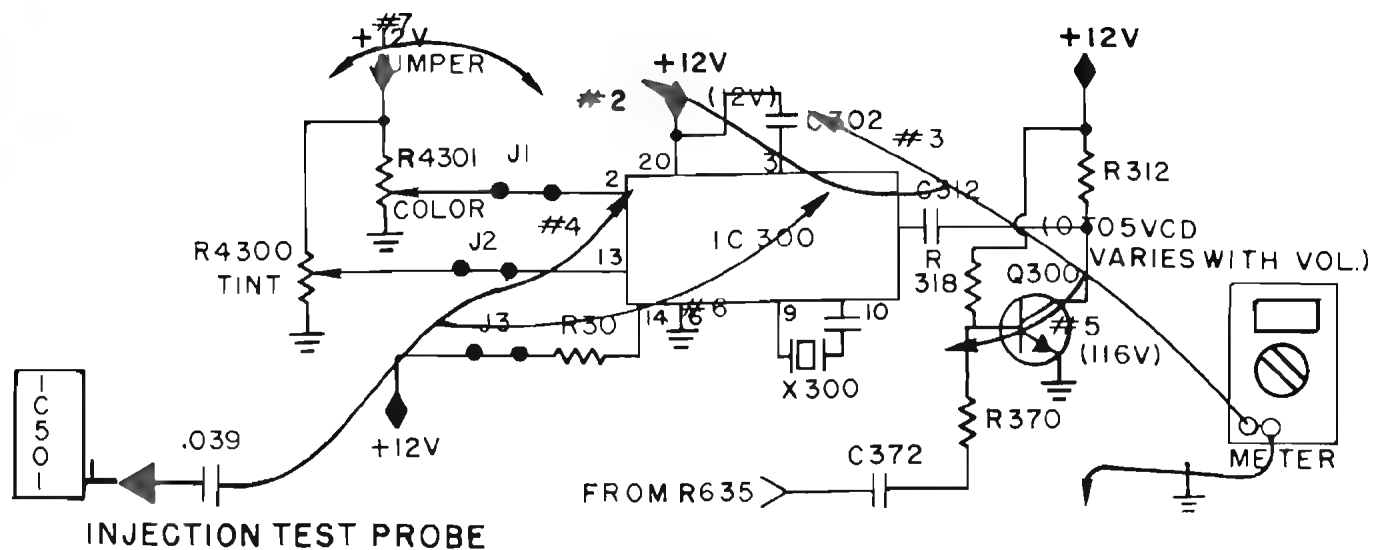
COMPONENT LOCATION (FOIL SIDE)



PC CHASSIS

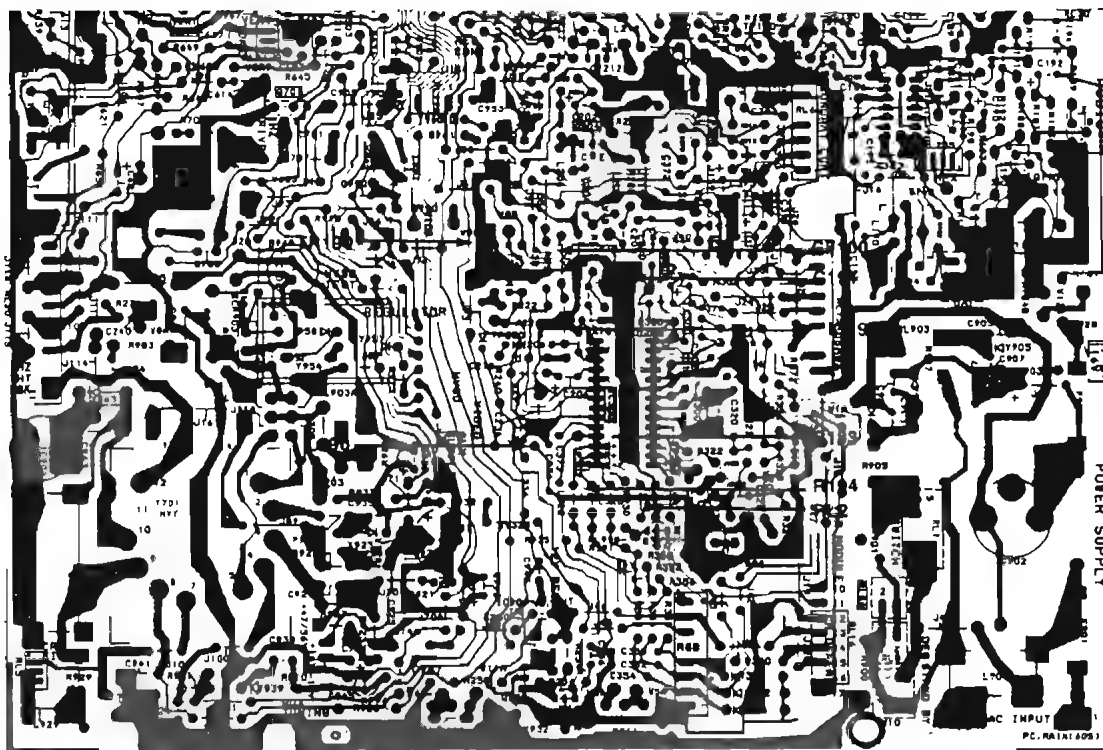


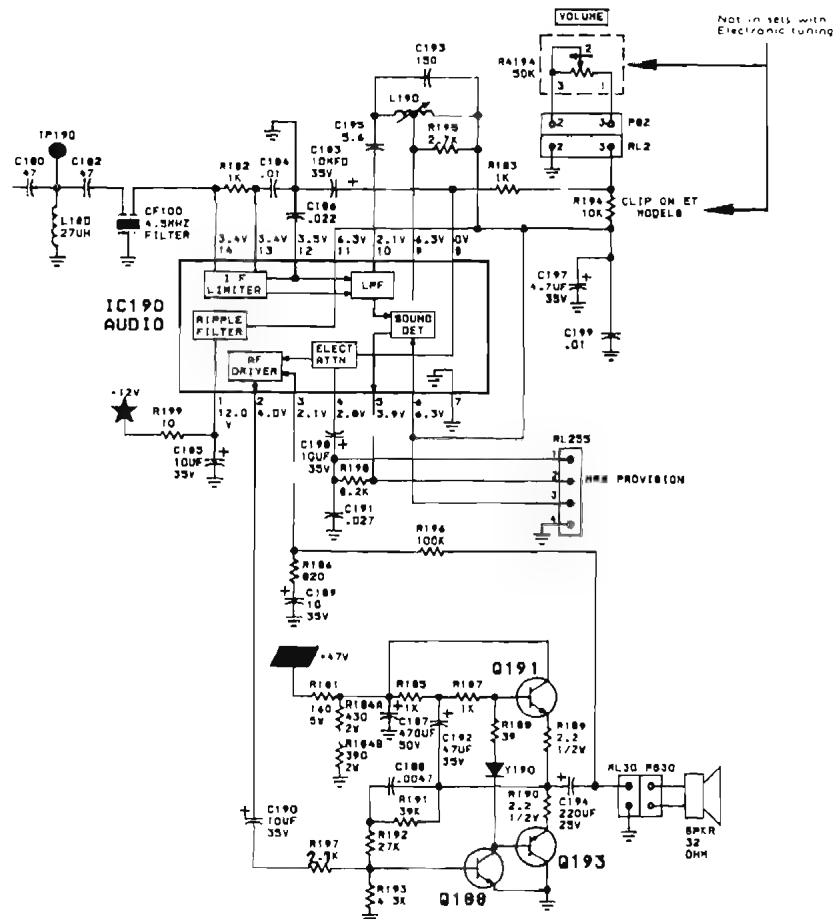
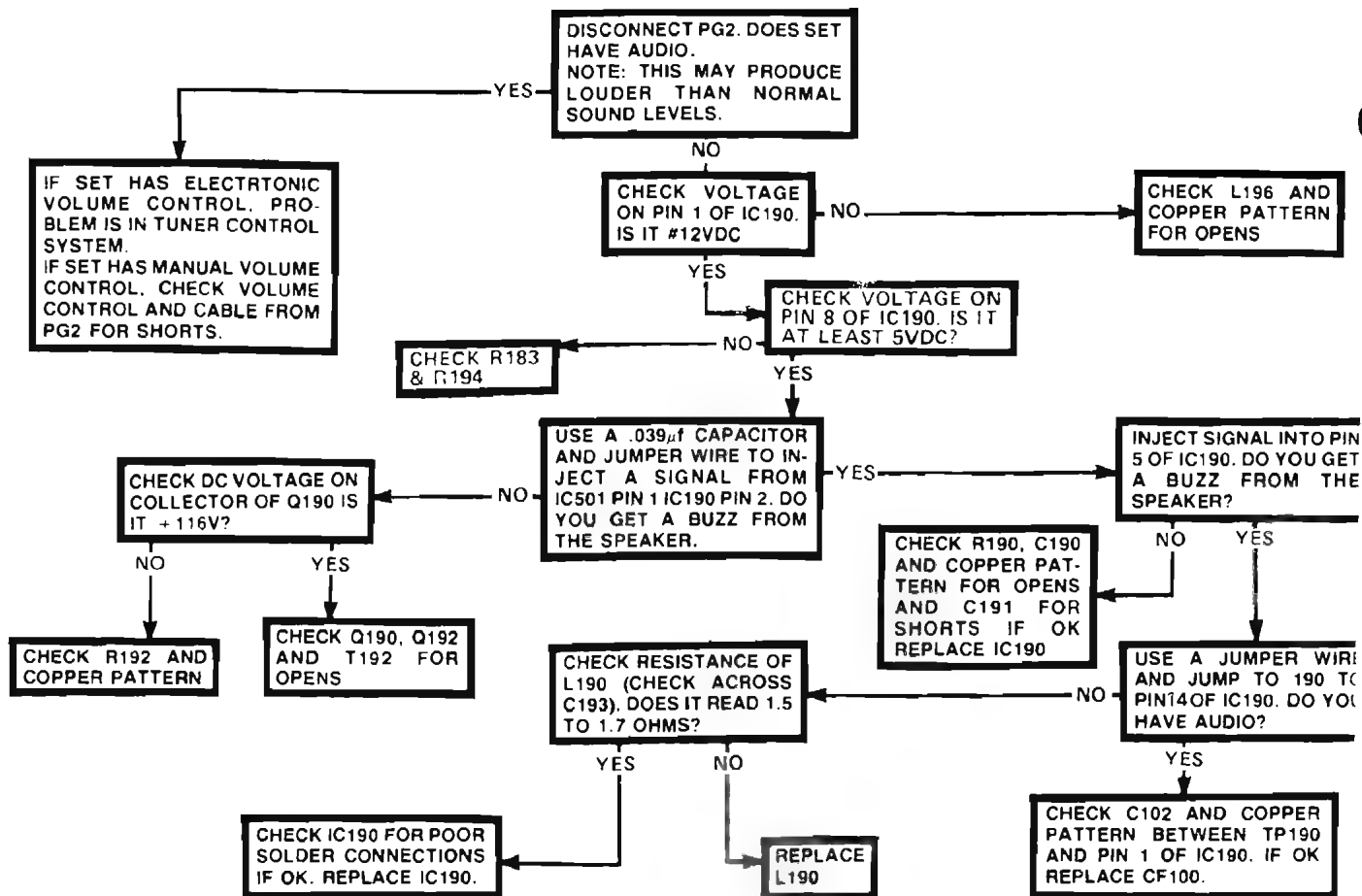
ABBREVIATED FLOW CHART

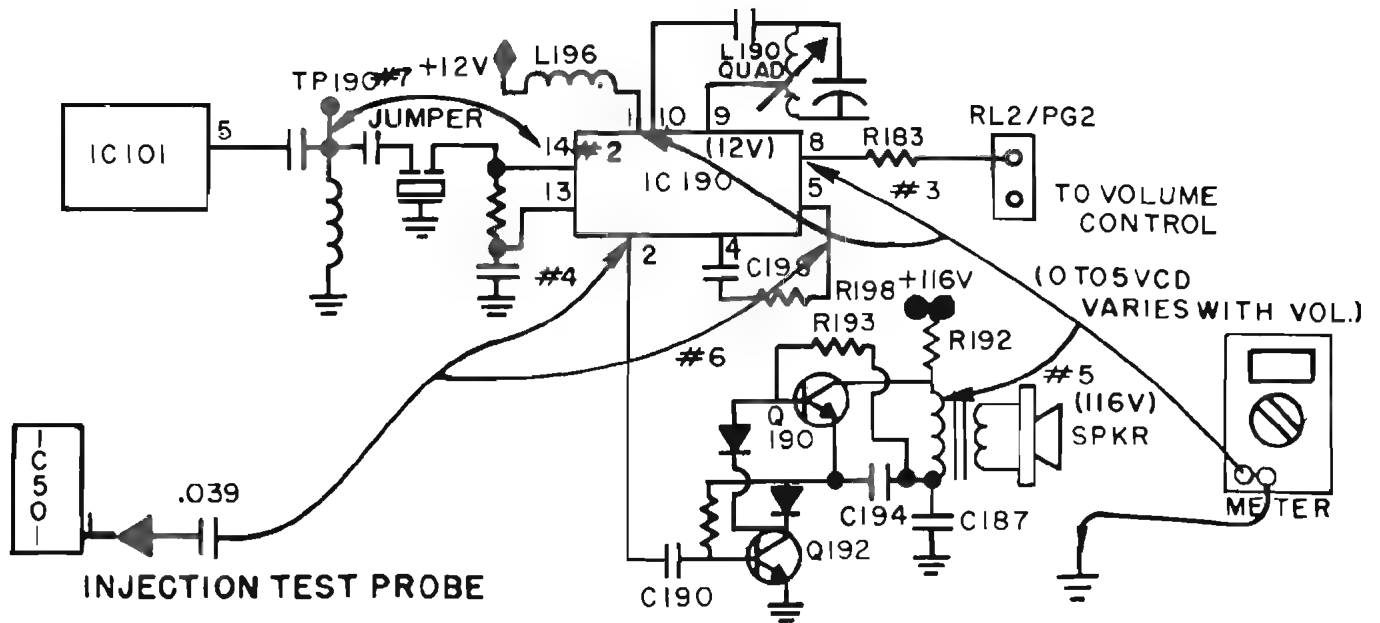


Circuit analysis and theory of operation contained in technical training manual Pub # 29-0555-81

COMPONENT LOCATION (FOIL SIDE)

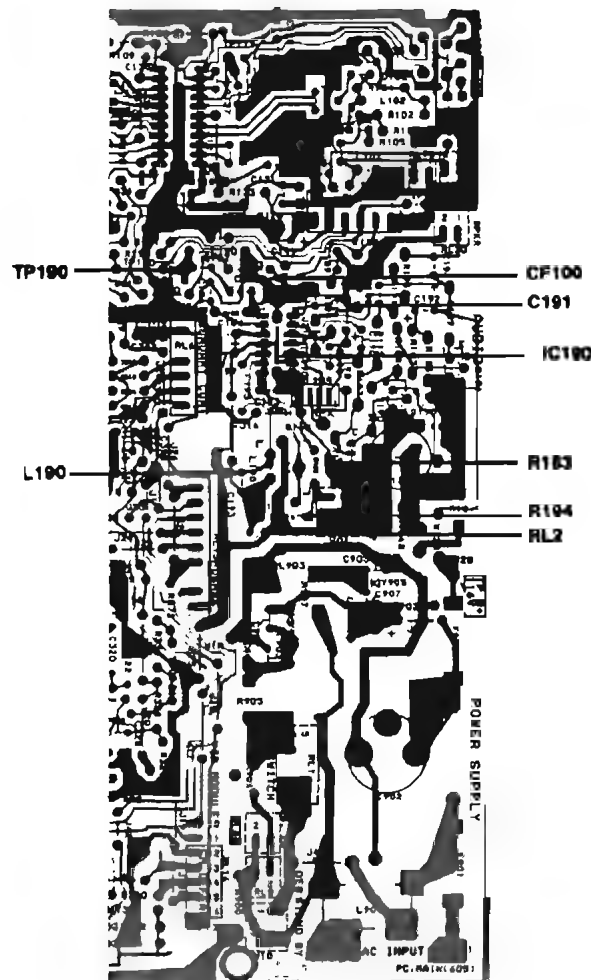






Circuit analysis and theory of operation contained in technical training manual Pub # 29-0555-81

COMPONENT LOCATION (FOIL SIDE)

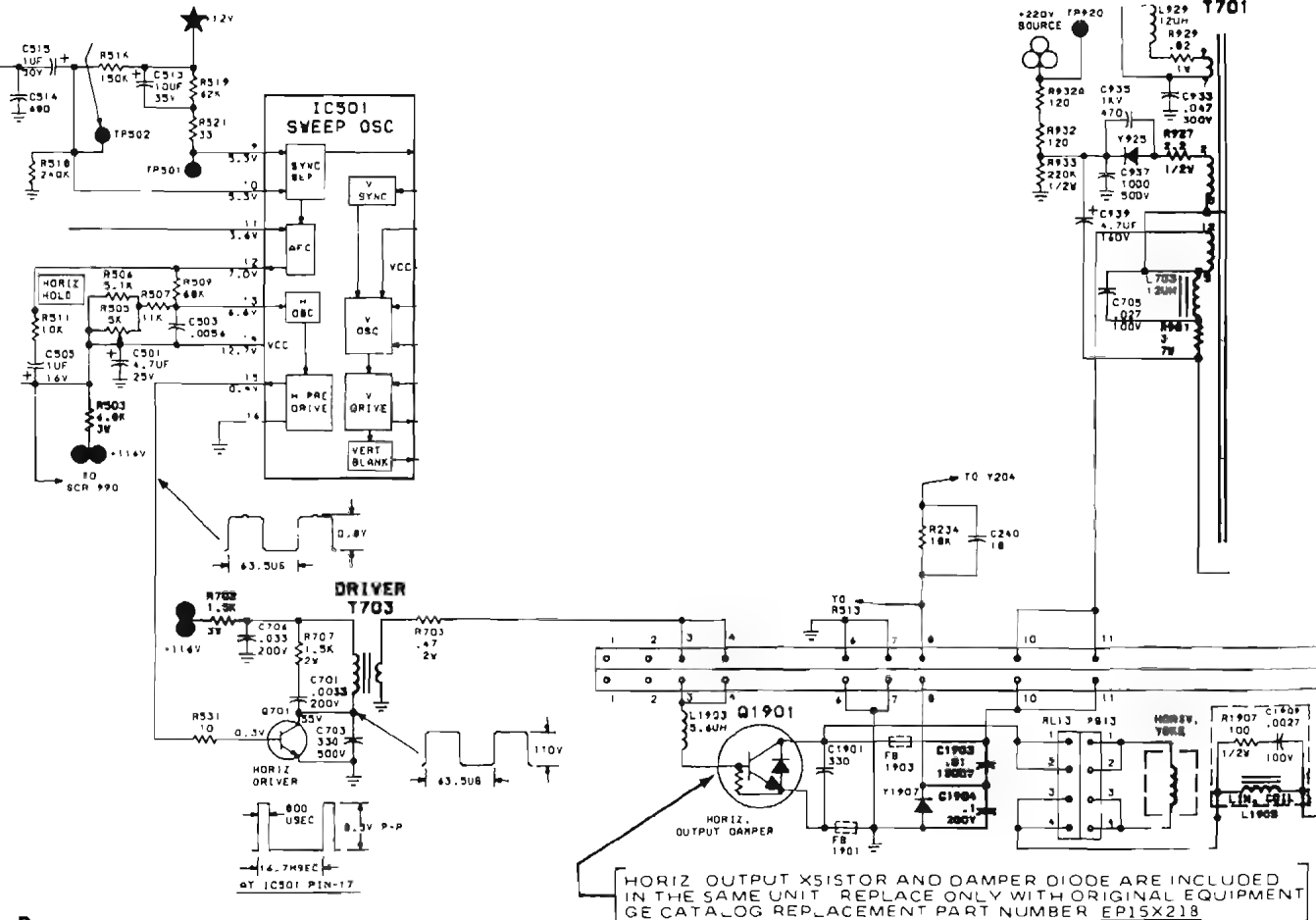


UNITED STATES DEPARTMENT OF AGRICULTURE

*NOTE: ALL AC VOLTAGES WERE TAKEN UTILIZ-
ING A BECKMAN 310 METER.

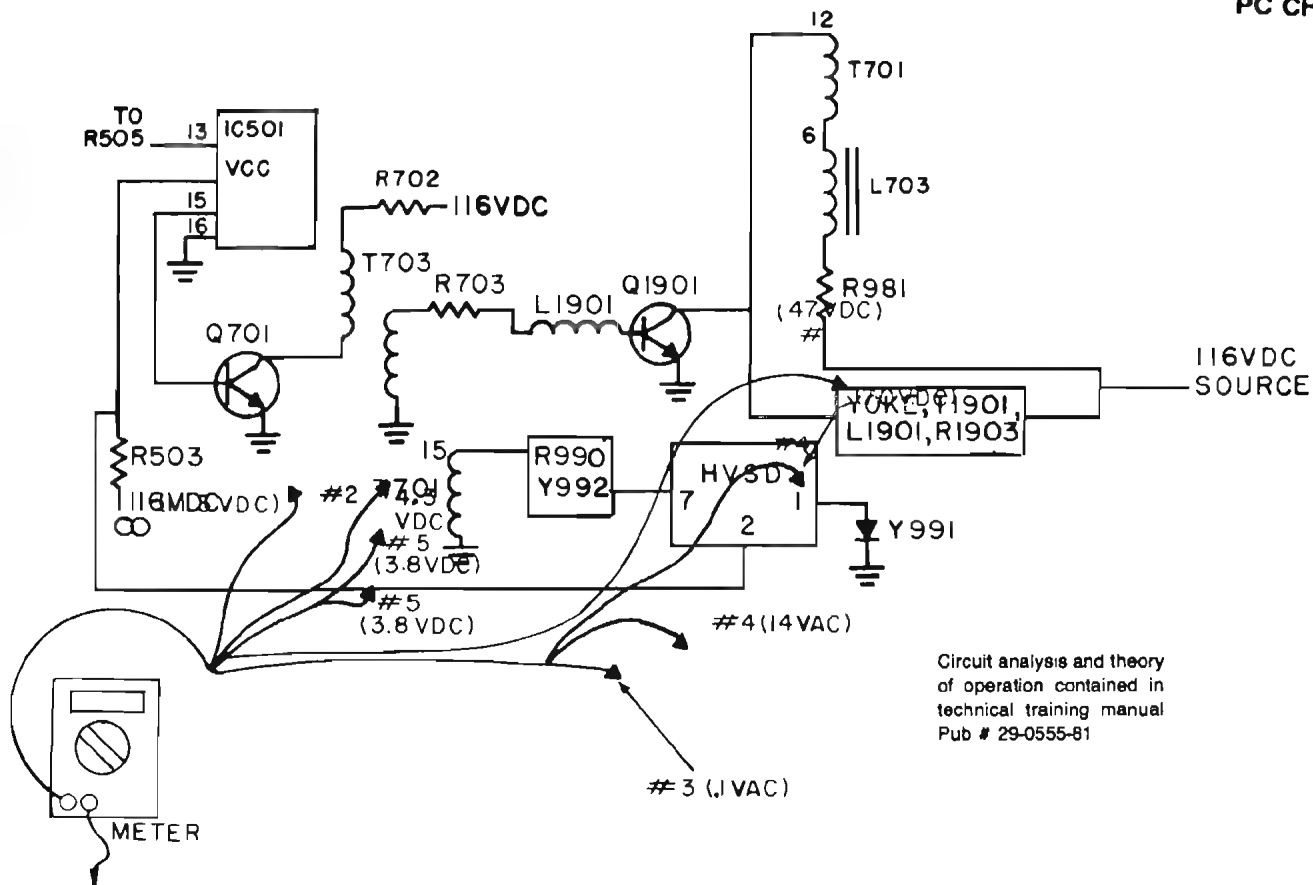
40 TO 60 VAC

CHECK FOR AC VOLTAGE ON THE COLLECTOR OF Q701	0 TO 14VAC COULD BE VARYING
---	-----------------------------

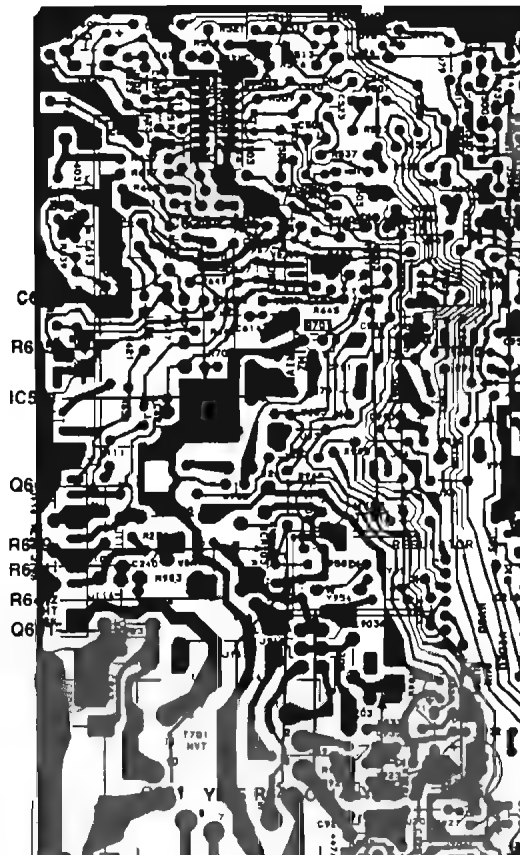


ABBREVIATED FLOW CHART

PC CHASSIS

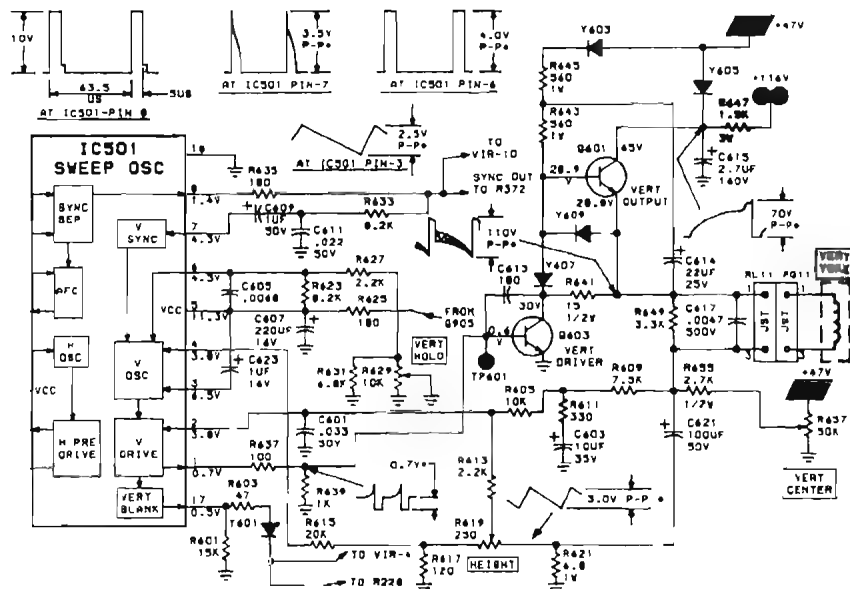


COMPONENT LOCATION (FOIL SIDE)

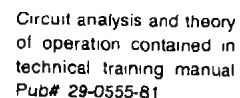


PC CHASSIS

BLANK RASTER
(NO BRIGHTNESS)



PC CHASSIS



C823 C805 R855 R857 Q905

C807

R825

IC501

Q803

R849

R841

R847

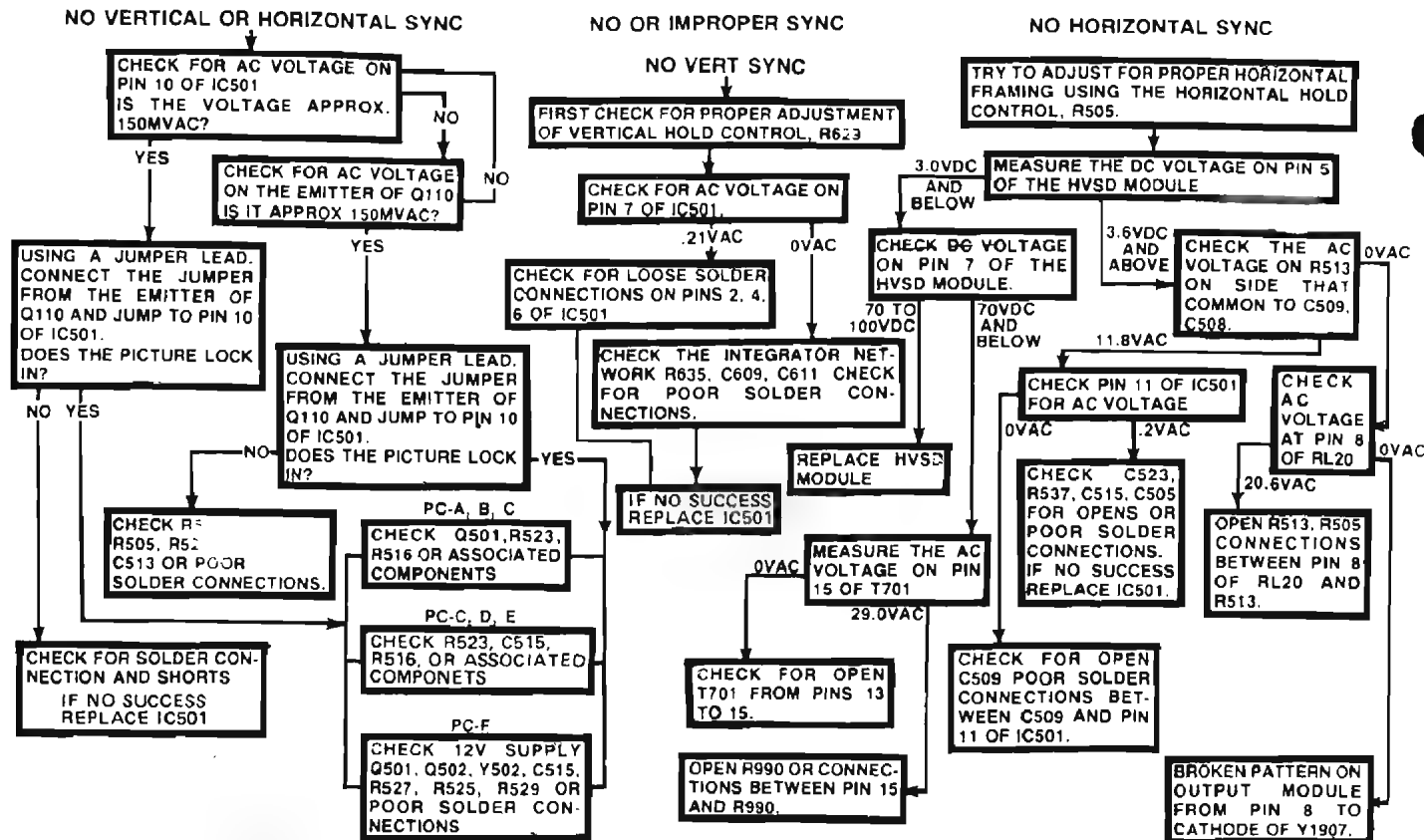
Q801

C821 Y605 R843 C814 Y603 R845

PC CHASSIS

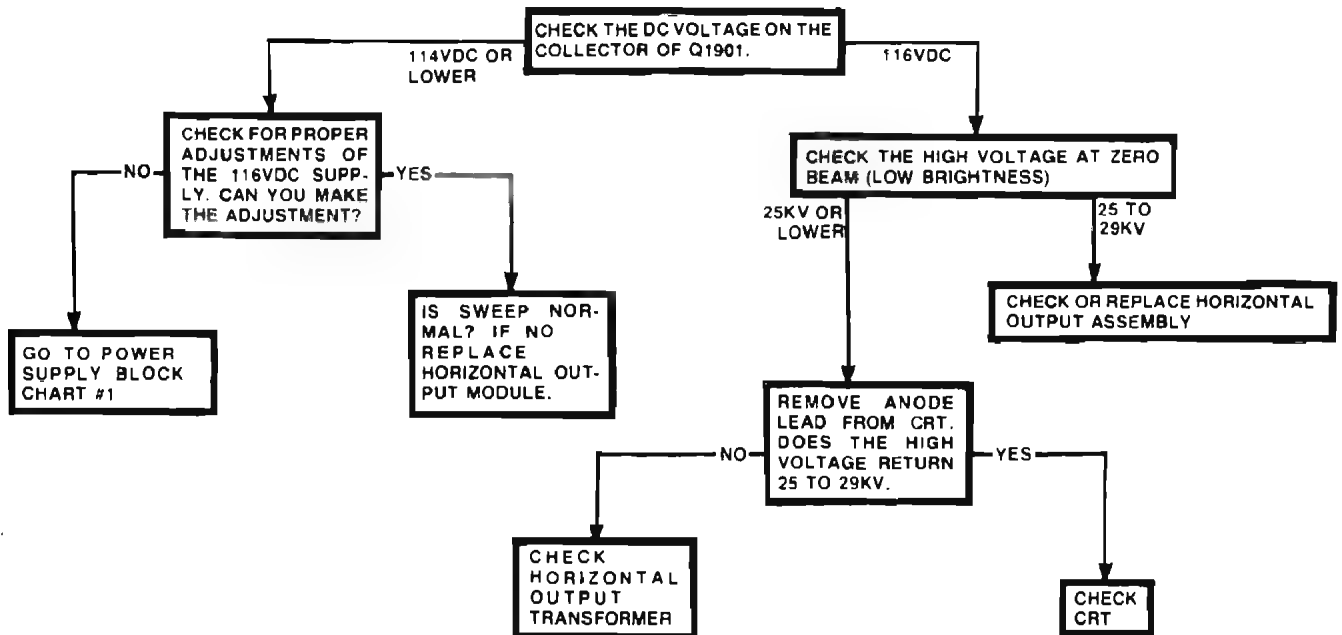
CHART #9 NO OR IMPROPER SYNC & INSUFFICIENT HORIZ. SWEEP

(AC VOLTAGES IN THIS BRANCH OF CHART MAY VARY WITH SIGNAL STRENGTH.)



*NOTE: ALL AC VOLTAGES WERE TAKEN UTILIZING A BECKMAN 310 METER

INSUFFICIENT SWEEP



DISTORTION IN RASTER

SOME DISTORTIONS IN THE RASTER THAT CAN BE INTERPRETED AS A HORIZONTAL PROBLEM ARE SOMETIMES FOUND TO BE IN THE REGULATOR CIRCUIT.

- KEYSTONED RASTER/WITH MOTORBOATING NOISE ACCOMPANIED BY HUM.
- INTERMITTENT BENDING OF VERTICAL LINES.

SYMPTOM	MOST LIKELY CAUSE	CAT #19"	CAT #25"	REFER TO CHART #
1. Dead Set F903 Open	-Q901 -Y963 -SCR903 Picture Tube -T701 -IC901 -C904 Solder Conn. on R951 If no fault found, cut out R941 (Behind Vertical Hold Control)	EP15X218 EP16X154 EP15X217 EP77X56 EP84X217 EP31X109	EP15X218 EP16X149 EP15X217 EP77X58 EP84X217 EP31X109	#1
2. Set Motorboats (If R981 is found to be open, also check R1903 horiz. cent. control)	-Q1901 -R981 -R1903 -R923 -R505 -Q905 -IC501 -Y951 -Loose conn. -HVSD Module	EP15X218 EP14X318 EP49X160 ES14X79 EP49X463 EP15X57 EP84X215 EP16X19 T701, pins 5, 12 EP62X167	EP15X218 EP14X258 EP49X160 ES14X79 EP49X463 EP15X57 EP84X215 EP16X19 EP62X167	#7
3. Set Motorboats with distorted raster	-Y951 -Q901 -Q903	EP16X19 EP15X91 EP15X57	EP16X19 EP15X91 EP15X57	#1
4. Inter Shutdown	-SCR903 -HVSD Module -T703 -Solder conn. or defective R505 -Solder conn. or crack pin 13 of T701 -IC901	EP15X217 EP62X167 EP64X57 EP84X217	EP15X217 EP62X167 EP64X57 EP84X217	
5. No raster/ No Color/ HV OK/ Sound OK	-Q207 -Q202 -IC300 -Q200 -C218 -Loose conn. pins 23, 26 IC300 -R230	EP15X57 EP15X48 EP84X221 EP15X88 EP31X78 EP14X71	EP15X57 EP15X48 EP84X221 EP15X88 EP31X78 EP14X71	#2
6. No Video or Weak Video Color and Sound OK	-L220 -Q204 -Q206 -Solder conn. on R216 -C216 -R206 -C202 -VIR Module	EP36X439 EP15X88 EP15X83 EP31X149 EP14X182 EP31X149 EP93X390	EP36X439 EP15X88 EP15X83 EP31X149 EP14X182 EP31X149 EP93X390	#4
7. No Picture/ No Audio/ No Color/ Has Raster	-IC101 -R124 -Q105 -C118 -SF101 S.A.W. Filter	EP84X213 EP49X463 EP15X104 EP22X32 EP41X123 EP41X123	EP84X213 EP49X463 EP15X104 EP22X32 EP41X123 EP41X123	#3

SYMPTOM	MOST LIKELY CAUSE	CAT #19"	CAT #25"	REFER TO CHART #
8. No Picture/ No Audio/ HV OK	-R923 -Y921 -Loose conn. pins 3 & 6 of T701	ES14X79 EP16X149	ES14X79 EP16X149	#3
9. No Color/ Intermittent Color/ Video OK	-C302 -IC300 -Q300 -R318 -R312 -VIR Module	EP31X49 EP84X221 EP15X88 Common EP14X304 EP93X381	EP31X49 EP84X221 EP15X88 Common EP14X304 EP93X381	#5
10. Incorrect Color/ Video OK	-C322 -4352,354,350 -IC501 -VIR Module	EP18X184 EP16X58 EP84X215 EP93X381	EP18X187 EP16X58 EP84X215 EP93X381	#5
11. No Vertical/ Abnormal Vertical Sweep	-Q601 -Q603 -C621 -C607 -C623 -C605 -IC501	EP15X105 EP15X105 EP31X169 EP31X141 EP31X49 EP18X229 EP84X215	EP15X105 EP15X105 EP31X140 EP31X141 EP31X49 EP18X229 EP84X215	#8
12. No Vertical Sync	Misadjusted RF AGC Control, R131 -C611 -IC501 Solder conn. pin 8 IC501	EP25X130 EP84X215	EP25X130 EP84X215	#9
13. No Horizontal Sync/ Abnormal Sync	-Solder conn. or crack on pin 15 of T701 -Solder conn. or defective R505 -C505 -IC501 -HVSD Module	EP31X49 EP84X215 EP62X167	EP31X49 EP84X215 EP62X167	#9
14. Excessive Brightness May Have Retrace Lines	-Screen control set too high -Q207 -R9321 -R927 -T701 -Loose conn. pin 2 of T701	EP15X57 Common ES14X80 EP77X56	EP15X57 Common ES14X80 EP77X56	#3
15. No Audio or Distorted Sound	-Q190 -Q192 -Speaker -TCM -IC190 -R193	EP15X19 EP15X19 See Model Sheet for # See Model Sheet for # EP84X216 Common	EP15X19 EP15X19 EP84X216 Common	#6
16. Dead/Won't Come On/No Motorboating or Ticking Noise	-Tuner Control Module/On-Off Switch or Relay -R973 -Y957/Y958 -F901	ES14X58 EP16X148 EP10X19	ES14X58 EP16X148 EP10X19	#1

**GENERAL ELECTRIC COMPANY
CONSUMER ELECTRONICS BUSINESS OPERATIONS
PORTSMOUTH, VIRGINIA 23705**



ELECTRONIC TUNING SYSTEMS



TELEVISION

PC CHASSIS

SERVICE INFORMATION

ELECTRONIC TUNING SYSTEMS INDEX

91 CHANNEL TUNING SYSTEMS (ET91/KMP91/LMP91)

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112/130 CHANNEL TUNING SYSTEMS

(SET/KMP/KMPV/KMPS/KMPS3-LMP/MP-LMP1A/MP1A-LMP1B/MP1B)

• Mini-Manuals:

SET112.....	6-17
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Tuner Control Modules	
SET/KMP/KMPV/KMPS/LMP/MP TCM.....	6-35
MP1A/MP1B/LMP1A/LMP1B TCM.....	6-36
Remote Transmitter and Receiver.....	6-37

ELECTRONIC TUNING SYSTEMS INDEX (CONT.)

- Replacement Parts Lists:

Tuner Control Modules

EP Number	Control Module	Channels
EP93X418	SET	112..... 6-47
EP93X451	SET	112..... 6-59
EP93X466	SET	112/130..... 6-65
EP93X469	SET	112..... 6-69
EP93X473	SET	112..... 6-73
EP93X414	KMP	112..... 6-45
EP93X473	KMP	112..... 6-73
EP93X446	KMP	112..... 6-55
EP93X467	KMPS	112/130..... 6-67
EP93X474	KMPS/KMPV/KMP	112..... 6-75
EP93X530	KMPS/KLMPS1/KMPS3	112/130..... 6-87
EP93X589	KMPS3A	130..... 6-97
EP93X413	LMP	112..... 6-43
EP93X445	LMP	112..... 6-53
EP93X446	LMP	112..... 6-55
EP93X465	LMP/LMP1A	112/130..... 6-63
EP93X470	LMP	112..... 6-71
EP93X494	LMP	112..... 6-81
EP93X538	LMP1/LMP1A	112..... 6-91
EP93X566	LMP1B	112/130..... 6-98
EP93X412	MP	112..... 6-41
EP93X424	MP	112..... 6-49
EP93X444	MP	112..... 6-51
EP93X449	MP	112..... 6-57
EP93X464	MP	130..... 6-61
EP93X490	MP	130..... 6-77
EP93X492	MP	130..... 6-79
EP93X508	MP	130..... 6-83
EP93X509	MP	130..... 6-85
EP93X531	MP1/MP1A	112..... 6-89
EP93X538	MP1A	112..... 6-91
EP93X541	MP/MP1/MP1A	112/130..... 6-93
EP93X566	MP1B	130..... 6-95

ELECTRONIC TUNING SYSTEMS INDEX (CONT.)

Remote Transmitters

EP Number	Transmitter	
EP62X164	LMP/LMP1/LMP1A/LMP1B	6-99
EP62X165	MP/MP1/MP1A/MP1B	6-99
EP62X179	MP	6-99
EP62X195	MP1	6-100
EP62X196	MP1	6-100
EP62X197	MP1/MP1B	6-100
EP62X198	MP1/MP1A	6-101

Remote Receivers

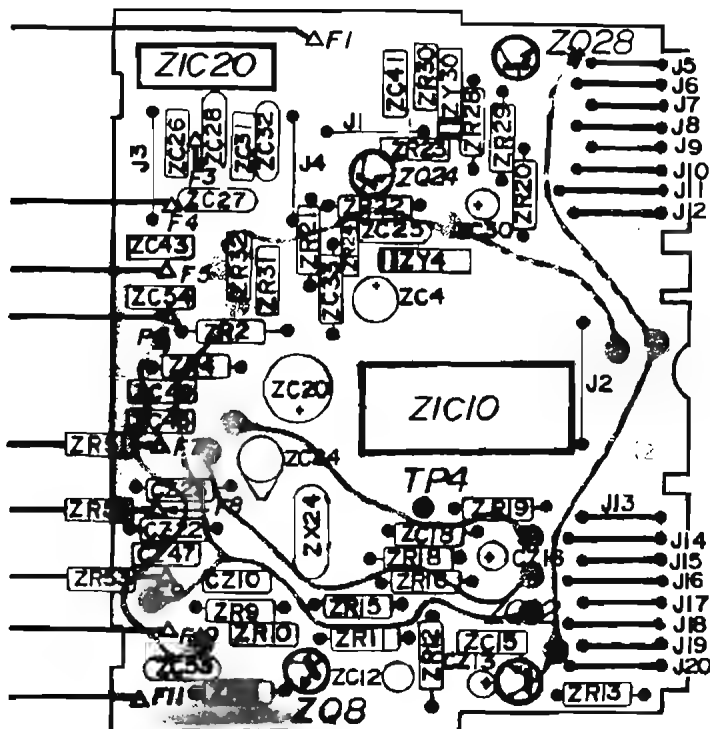
EP Number	Remote RCVR	
EP93X417	LMP	6-102
EP93X475	LMP	6-102
EP93X476	LMP/MP	6-103
EP93X478	LMP/MP	6-103
EP93X479	LMP/MP	6-104
EP93X480	LMP/MP	6-104
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EP93X482	LMP/MP	6-104
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Troubleshooting Flow Charts		6-107
• Bandswitching Voltages and Cable Frequency Chart		
112 Channel Systems		6-109
130 Channel Systems		6-110

NOTE

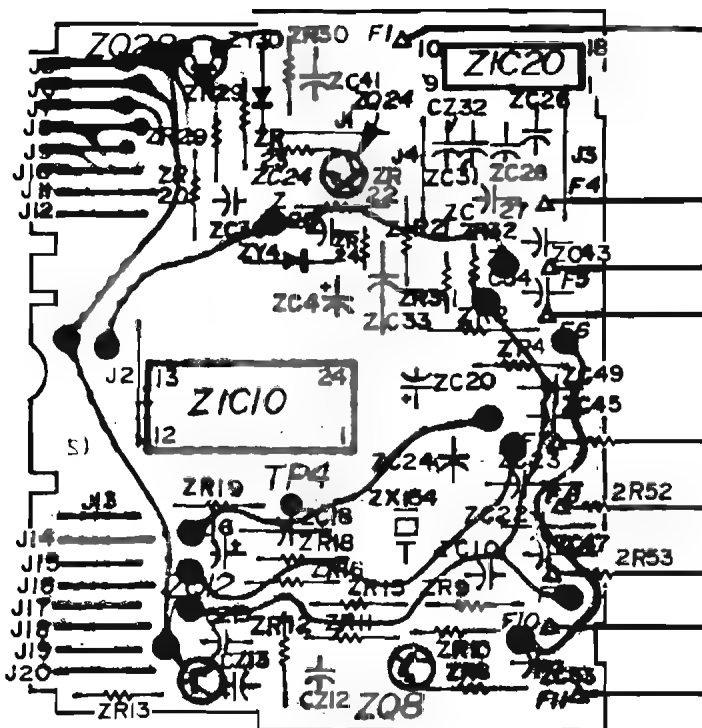
**Refer to Section 2 of this Service Manual for UHF/VHF
Electronic Tuner Schematic Diagrams.**

ET91 CONTROL BOARD (w/PRESCALER)
EP93X386

M-R



COMPONENT SIDE



COPPER SIDE

ELECTRONIC TUNING REPLACEMENT PARTS LIST

- Tuner Control Modules
 - Remote Transmitters
 - Remote Receivers

TUNER CONTROL CIRCUIT BOARD

EP93X412

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X150	10 μ f, 20%, 50V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C508	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi-Polar, Elect.
C511	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C600	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C601	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C602	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C603	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C604	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C605	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C606	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C607	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C608	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C609	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X166	1 μ f, 20%, 50V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C613	EP31X150	10 μ f, 20%, 50V, Elect.
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer. Disc
C621	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C622	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C623	EP31X150	10 μ f, 20%, 50V, Elect.

C624	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C625	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C626	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C627	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C650	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X61	820 ohm, 5%, 1/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/8W, Carbon
R501	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	Common	2.2 meg ohm, 10%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	EP14X284	1K ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X104	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X193	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X104	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon

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R638	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R639	EP14X303	220K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	Common	30K ohm, 5%, 1/8W, Carbon
R649	EP14X193	47K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X104	22K ohm, 5%, 1/8W, Carbon
R670	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	EP14X288	30K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	Common	36K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X476	100K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X225	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q502	EP15X89	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%

TUNER CONTROL CIRCUIT BOARD

EP93X413

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X150	10 μ f, 20%, 50V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C508	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi-Polar, Elect.
C511	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C600	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C601	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C602	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C603	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C604	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C605	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C606	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C607	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C608	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C609	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X166	1 μ f, 20%, 50V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C613	EP31X150	10 μ f, 20%, 50V, Elect.
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022 μ f, +80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer.Disc
C621	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C622	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc

C623	EP31X150	10 μ f, 20%, 50V, Elect.
C624	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C625	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C626	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C627	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C650	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X61	820 ohm, 5%, 1/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/8W, Carbon
R501	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	Common	2.2 meg ohm, 10%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	EP14X284	1K ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X104	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X193	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon

R635	EP14X104	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon
R638	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R639	EP14X303	220K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	Common	30K ohm, 5%, 1/8W, Carbon
R649	EP14X193	47K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X104	22K ohm, 5%, 1/8W, Carbon
R670	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	EP14X288	30K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	Common	36K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X476	100K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X225	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q502	EP15X89	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%

TUNER CONTROL CIRCUIT BOARD

EP93X414

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	ES31X31	47 μ f, 20%, 16V, Elect.
C103	EP31X150	10 μ f, 20%, 50V, Elect.
C500	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C508	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C508	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 25V, Bi-Polar, Elect.
C511	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C600	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C601	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C602	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C603	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C604	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C605	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C606	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C607	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C608	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C609	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C612	EP18X187	27pf, 10%, 50V, NPO, Cer. Disc
C613	EP31X149	10 μ f, 20%, 35V, Elect.
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022 μ f, +80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C625	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C626	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C627	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C628	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	270 ohm, 5%, 1/8W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	ES14X70	100 ohm, 5%, 1/8W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R107	Common	62 ohm, 5%, 1/8W, Carbon
R500	EP14X284	1K ohm, 5%, 1/8W, Carbon
R501	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R504	Common	4.3meg ohm, 5%, 1/4W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	Common	2.2 meg ohm, 10%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	EP14X284	1K ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X303	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X193	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R648	Common	30K ohm, 5%, 1/8W, Carbon
R649	EP14X193	47K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon

R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X193	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	Common	43K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R687	EP14X288	18K ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R695	EP14X303	22K ohm, 5%, 1/8W, Carbon
R696	EP14X284	10K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X226	Control Microprocessor

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q502	EP15X89	Loop Filter Amp, NPN, Silicon
Q503	EP15X87	Loop Filter Amp, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	10 Volt, Zener
Y108	EP16X152	5 Volt, Zener
Y109	EP16X32	30 Volt, Zener
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	6.2 Volt, Zener
Y800	EP16X32	30 Volt, Zener

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%

TUNER CONTROL CIRCUIT BOARD

EP93X418

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X182	100 μ f, 20%, 25V, Elect.
C101	EP31X182	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X150	10 μ f, 20%, 50V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, SHIK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, SHIK, Cer. Disc
C508	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01 μ f, 10%, 50V, SHIK, Cer. Disc
C510	EP31X184	1 μ f, 20%, 50V, Bi-Polar, Elect.
C511	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP18X262	.01 μ f, 10%, 50V, SHIK, Cer. Disc
C600	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C601	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C602	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C603	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C604	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C605	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C606	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C607	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C608	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C609	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X166	1 μ f, 20%, 50V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C613	EP31X149	10 μ f, 20%, 35V, Elect.
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C621	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C622	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc

C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C625	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C626	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C627	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X68	470 ohm, 5%, 1/2W, Metal Oxide
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R255	EP14X92	56K ohm, 5%, 1/4W, Carbon
R500	ES14X71	1K ohm, 5%, 1/8W, Carbon
R501	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	EP14X171	2.2 meg ohm, 10%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	EP14X284	1K ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R555	EP14X92	56K ohm, 5%, 1/4W, Carbon
R601	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X104	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X193	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X104	22K ohm, 5%, 1/8W, Carbon

R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon
R638	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R639	EP14X303	220K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	EP14X288	30K ohm, 5%, 1/8W, Carbon
R649	EP14X193	47K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X193	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X104	22K ohm, 5%, 1/8W, Carbon
R670	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	Common	43K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	EP14X104	22K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R696	EP14X103	10K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R840	EP49X476	100K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC100	EP84X230	9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X231	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q502	EP15X89	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q504	EP15X87	NPN, Silicon
Q601	EP15X57	PNP, Silicon
Q602	EP15X57	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%

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CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X162	100 μ f, 20%, 25V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X150	10 μ f, 20%, 50V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	EP18X270	390pf, 5%, 50V, NPO, Cer. Disc
C505	EP18X270	390pf, 5%, 50V, NPO, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C508	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi-Polar, Elect.
C511	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C600	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C601	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C602	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C603	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C604	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C605	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C606	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C607	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C608	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C609	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X166	1 μ f, 20%, 50V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C613	EP31X150	10 μ f, 20%, 50V, Elect.
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022 μ f, +80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C620	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer.Disc
C621	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C622	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C623	EP31X150	10 μ f, 20%, 50V, Elect.

C624	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C625	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C626	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C627	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/2W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, 1/8W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R500	EP14X284	1K ohm, 5%, 1/8W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R504	Common	4.3 meg, 5%, 1/4W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	Common	1.5 meg ohm, 10%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X303	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X193	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon

PC CHASSIS

R638	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R639	EP14X303	220K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R641A	EP14X105	100K ohm, 5%, 1/4W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	Common	30K ohm, 5%, 1/8W, Carbon
R649	EP14X193	47K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X193	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	EP14X288	30K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	Common	36K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X476	100K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X225	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q502	EP15X89	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q504	EP15X87	NPN, Silicon
Q601	EP15X48	PNP, Silicon
Q602	EP15X48	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%

TUNER CONTROL CIRCUIT BOARD

EP93X444

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X150	10 μ f, 20%, 50V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C508	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer. Disc
C509	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi-Polar, Elect.
C511	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C601	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C604	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C605	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C606	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C607	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C608	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C609	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X166	1 μ f, 20%, 50V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C621	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C622	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C623	EP31X150	10 μ f, 20%, 50V, Elect.
C624	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C625	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C626	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc

C627	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/8W, Carbon
R501	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	EP14X284	1K ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X104	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X193	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X104	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon
R638	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R639	EP14X303	220K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon

R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	Common	30K ohm, 5%, 1/8W, Carbon
R649	EP14X284	1K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X193	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X104	22K ohm, 5%, 1/8W, Carbon
R670	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	EP14X288	30K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	Common	36K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X476	100K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X225	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Stability Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	7.5V, Zener
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%

TUNER CONTROL CIRCUIT BOARD

EP93X445

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X150	10 μ f, 20%, 50V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C508	EP18X167	.047 μ f, +80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi-Polar, Elect.
C511	EP18X206	.022 μ f, +80-20%, 50V, H K, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C601	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C604	EP18X206	.022 μ f, +80-20%, 50V, H K, Cer Disc
C605	EP18X206	.022 μ f, +80-20%, 50V, HiK, Cer Disc
C606	EP18X206	.022 μ f, +80-20%, 50V, HiK, Cer Disc
C607	EP18X206	.022 μ f, +80-20%, 50V, HiK, Cer Disc
C608	EP18X206	.022 μ f, +80-20%, 50V, H K, Cer Disc
C609	EP18X206	.022 μ f, +80-20%, 50V, H K, Cer Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X166	1 μ f, 20%, 50V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022 μ f, +80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X206	.022 μ f, +80-20%, 50V, HiK, Cer Disc
C621	EP18X206	.022 μ f, +80-20%, 50V, HiK, Cer Disc
C622	EP18X206	.022 μ f, +80-20%, 50V, HiK, Cer Disc
C623	EP31X150	10 μ f, 20%, 50V, Elect.
C624	EP18X206	.022 μ f, +80-20%, 50V, HiK, Cer Disc
C625	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc

C626	EP18X206	.022 μ f, +80-20%, 50V, HiK, Cer Disc
C627	EP18X206	.022 μ f, +80-20%, 50V, HiK, Cer Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/8W, Carbon
R501	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	EP14X284	1K ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X104	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X193	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X104	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon
R638	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R639	EP14X303	220K ohm, 5%, 1/8W, Carbon

PC CHASSIS

R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	Common	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X193	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X104	22K ohm, 5%, 1/8W, Carbon
R670	EP14X250	2 2K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	Common	43K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	EP14X104	22K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X476	100K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale

IC600	EP84X222	Custom Interface
IC601	EP84X223	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	7.5V, Zener
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%

TUNER CONTROL CIRCUIT BOARD

EP93X446

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	ES31X31	47 μ f, 20%, 16V, Elect.
C103	EP31X150	10 μ f, 20%, 50V, Elect.
C500	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C508	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer. Disc
C509	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 25V, Bi-Polar, Elect.
C511	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C601	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C604	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C605	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C606	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C607	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C608	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C609	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C612	EP18X187	27pf, 10%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C621	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C622	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C625	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C626	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C627	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc

C628	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	270 ohm, 5%, 1/8W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	ES14X70	100 ohm, 5%, 1/8W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R107	Common	62 ohm, 5%, 1/8W, Carbon
R500	EP14X284	1K ohm, 5%, 1/8W, Carbon
R501	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	EP14X284	1K ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X303	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X193	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R648	Common	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon

R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X193	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	Common	43K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R695	EP14X303	22K ohm, 5%, 1/8W, Carbon
R696	EP14X284	10K ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X226	Control Microprocessor

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q502	EP15X109	Loop Filter Amp, NPN, Silicon
Q503	EP15X87	Loop Filter Amp, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q615	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	10 Volt, Zener
Y108	EP16X152	5 Volt, Zener
Y109	EP16X32	30 Volt, Zener
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	6.2 Volt, Zener
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	30 Volt, Zener

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%

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CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X150	10 μ f, 20%, 50V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C508	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi-Polar, Elect.
C511	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C600	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C601	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C602	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C603	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C604	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C605	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C606	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C607	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C608	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C609	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X166	1 μ f, 20%, 50V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X289	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer.Disc
C621	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C622	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C623	EP31X150	10 μ f, 20%, 50V, Elect.
C624	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc

C625	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C626	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C627	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/8W, Carbon
R501	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	EP14X284	1K ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X104	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X193	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X104	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon
R638	EP14X180	5.6K ohm, 5%, 1/8W, Carbon

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R639	EP14X303	220K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	Common	30K ohm, 5%, 1/8W, Carbon
R649	EP14X193	47K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X193	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X104	22K ohm, 5%, 1/8W, Carbon
R670	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	EP14X288	30K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	Common	36K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X476	100K ohm, 20%

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X225	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X89	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	7.5V, Zener
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener

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CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X150	10 μ f, 20%, 50V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C508	EP18X167	.047 μ f, + 80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi-Polar, Elect.
C511	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C601	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C604	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer Disc
C605	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer Disc
C606	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer Disc
C607	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer Disc
C608	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer Disc
C609	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X166	1 μ f, 20%, 50V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer Disc
C621	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer Disc
C622	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer Disc
C623	EP31X150	10 μ f, 20%, 50V, Elect.

C624	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer Disc
C625	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C626	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer Disc
C627	EP18X206	.022 μ f, + 80-20%, 50V, HiK, Cer Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/8W, Carbon
R501	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	EP14X284	1K ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X104	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X193	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X104	22K ohm, 5%, 1/8W, Carbon

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R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon
R638	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R639	EP14X303	220K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	Common	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X193	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X104	22K ohm, 5%, 1/8W, Carbon
R670	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	EP14X288	30K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	Common	36K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X231	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	7.5V, Zener
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X476	100K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%

TUNER CONTROL CIRCUIT BOARD

EP93X464

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X47	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X149	10 μ f, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047 μ f, 10%, 50V, Polyester
C509	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C601	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C605	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C606	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C607	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C608	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C609	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7 μ f, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C620	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C621	EP31X166	1 μ f, 20%, 50V, Elect.
C622	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C625	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C626	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C627	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.
C689	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/8W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	Common	4.3meg ohm, 5%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	Common	6.2K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X125	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon
R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	100K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R641A	EP14X105	100K ohm, 5%, 1/4W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon

R648	Common	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X125	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	EP14X288	30K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	Common	36K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X234	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X465

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X47	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X149	10 μ f, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047 μ f, 10%, 50V, Polyester
C509	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C605	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C606	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C607	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C608	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C609	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7 μ f, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C621	EP31X166	1 μ f, 20%, 50V, Elect.
C622	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.
C689	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Carbon
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/8W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	Common	4.3meg ohm, 5%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	Common	6.2K ohm, 5%, 1/8W, Carbon
R602	Common	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X125	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon
R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	100K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon

R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	Common	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X125	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	Common	43K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	EP14X104	22K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X235	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X466

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X47	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X149	10 μ f, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047 μ f, 10%, 50V, Polyester
C509	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C601	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C605	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C606	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C607	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C608	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C609	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7 μ f, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C621	EP31X166	1 μ f, 20%, 50V, Elect.
C622	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C625	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C626	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C627	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Carbon
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/8W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	Common	4.3meg ohm, 5%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	Common	6.2K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X125	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon
R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	220K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon

PC CHASSIS

R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	Common	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X125	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	Common	43K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	EP14X104	22K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R696	EP14X103	10K ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

IC600	EP84X222	CUSTOM
IC601	EP84X236	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X467

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X47	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X149	10 μ f, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc.
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc.
C106	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc.
C500	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc.
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc.
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc.
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc.
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc.
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc.
C506	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc.
C508	EP25X87	.047 μ f, 10%, 50V, Polyester
C509	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc.
C510	EP31X164	1 μ f, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc.
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc.
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc.
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc.
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc.
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc.
C601	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc.
C602	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc.
C603	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc.
C604	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc.
C605	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc.
C606	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc.
C607	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc.
C608	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc.
C609	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc.
C610	EP18X204	470pf, 10%, 50V, Cer. Disc.
C611	EP31X170	4.7 μ f, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc.
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc.
C615	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc.
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc.
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc.
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc.
C621	EP31X166	1 μ f, 20%, 50V, Elect.
C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc.
C625	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc.
C626	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc.
C627	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc.
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Carbon

R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R108	Common	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/8W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	Common	4.3 meg ohm, 5%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	Common	6.2K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X125	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon
R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	100K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	Common	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon

R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X125	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	Common	43K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R696	EP14X103	10K ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X237	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X469

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X47	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X149	10 μ f, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047 μ f, 10%, 50V, Polyester
C509	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C605	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C606	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C607	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C608	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C609	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7 μ f, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C621	EP31X166	1 μ f, 20%, 50V, Elect.
C622	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Carbon
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/8W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	Common	4.3meg ohm, 5%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	Common	6.2K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X125	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon
R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	220K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	Common	30K ohm, 5%, 1/8W, Carbon

R649	ES14X71	1K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X125	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	Common	43K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	EP14X104	22K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R696	EP14X103	10K ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X236	CONTROL MICROPROCESSOR
IC800	EP84X224	EARMOM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X470

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X150	10 μ f, 20%, 50V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C106	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047 μ f, 10%, 50V, Polyester
C509	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi-Polar, Elect.
C511	EP18X287	.022 μ f, + 80-20%, 50V, HiK Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X287	.022 μ f, + 80-20%, 50V, HiK Cer. Disc
C601	EP18X287	.022 μ f, + 80-20%, 50V, HiK Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022 μ f, + 80-20%, 50V, HiK Cer. Disc
C605	EP18X287	.022 μ f, + 80-20%, 50V, HiK Cer. Disc
C606	EP18X287	.022 μ f, + 80-20%, 50V, HiK Cer. Disc
C607	EP18X287	.022 μ f, + 80-20%, 50V, HiK Cer. Disc
C608	EP18X287	.022 μ f, + 80-20%, 50V, HiK Cer. Disc
C609	EP18X287	.022 μ f, + 80-20%, 50V, HiK Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7 μ f, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022 μ f, + 80-20%, 50V, HiK Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C621	EP31X166	1 μ f, 20%, 50V, Elect.
C622	EP18X287	.022 μ f, + 80-20%, 50V, HiK Cer. Disc
C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X287	.022 μ f, + 80-20%, 50V, HiK Cer. Disc
C625	EP18X287	.022 μ f, + 80-20%, 50V, HiK Cer. Disc

C626	EP18X287	.022 μ f, + 80-20%, 50V, HiK Cer. Disc
C627	EP18X287	.022 μ f, + 80-20%, 50V, HiK Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.
C689	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Carbon
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/8W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	Common	4.3 Meg ohm, 5%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	EP14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	Common	6.2K ohm, 5%, 1/8W, Carbon
R602	EP14X284	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X125	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon

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R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	220K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	Common	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X125	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	Common	43K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	EP14X104	22K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 Terminal 9V Regulator

IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X235	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B + Switch, PNP, Silicon
Q602	EP15X57	B + Switch, PNP, Silicon
Q603	EP15X87	B + Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	Standby Power, NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	Standby Power, NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%
X500	EP41X68	CRYSTAL-Filter

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X473

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X149	10 μ f, 20%, 35V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C106	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047 μ f, 10%, 50V, Polyester
C509	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi-Polar, Elect.
C511	EP18X287	.022 μ f, +80-20%, 50V, HiK Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X287	.022 μ f, +80-20%, 50V, HiK Cer. Disc
C601	EP18X287	.022 μ f, +80-20%, 50V, HiK Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022 μ f, +80-20%, 50V, HiK Cer. Disc
C605	EP18X287	.022 μ f, +80-20%, 50V, HiK Cer. Disc
C606	EP18X287	.022 μ f, +80-20%, 50V, HiK Cer. Disc
C607	EP18X287	.022 μ f, +80-20%, 50V, HiK Cer. Disc
C608	EP18X287	.022 μ f, +80-20%, 50V, HiK Cer. Disc
C609	EP18X287	.022 μ f, +80-20%, 50V, HiK Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7 μ f, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022 μ f, +80-20%, 50V, HiK Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022 μ f, +80-20%, 50V, HiK Cer. Disc
C621	EP31X166	1 μ f, 20%, 50V, Elect.
C622	EP18X287	.022 μ f, +80-20%, 50V, HiK Cer. Disc
C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X287	.022 μ f, +80-20%, 50V, HiK Cer. Disc

C625	EP18X287	.022 μ f, +80-20%, 50V, HiK Cer. Disc
C626	EP18X287	.022 μ f, +80-20%, 50V, HiK Cer. Disc
C627	EP18X287	.022 μ f, +80-20%, 50V, HiK Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Carbon
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/8W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	Common	4.3 Meg ohm, 5%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	EP14X82	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	Common	6.8K ohm, 5%, 1/8W, Carbon
R602	Common	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X125	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon

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R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	220K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	Common	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X125	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	Common	43K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	EP14X104	22K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R696	EP14X103	10K ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 Terminal 9V Regulator

IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X236	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B + Switch, PNP, Silicon
Q602	EP15X57	B + Switch, PNP, Silicon
Q603	EP15X87	B + Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	Standby Power, NPN, Silicon
		DELETED
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	Standby Power, NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%
X500	EP41X68	CRYSTAL-Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X474

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X149	10 μ f, 20%, 35V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C106	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047 μ f, 10%, 50V, Polyester
C509	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C605	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C606	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C607	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C608	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C609	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X179	4.7 μ f, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C621	EP31X166	1 μ f, 20%, 50V, Elect.
C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1/4W, Metal Oxide
R105	EP14X299	68 ohm, 5%, 1/4W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/8W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon

R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	Common	4.3 Meg ohm, 5%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	EP14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	Common	6.2K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X125	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon
R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	100K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	Common	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon

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R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X125	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	Common	43K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R696	EP14X103	20K ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOLTAGE REGULATOR
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X237	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q504	EP15X87	NPN, Silicon
Q601	EP15X57	PNP, Silicon
Q602	EP15X57	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X490

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X47	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X149	10 μ f, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047 μ f, 10%, 50V, Polyester
C509	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C605	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C606	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C607	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C608	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C609	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7 μ f, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C620	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C621	EP31X166	1 μ f, 20%, 50V, Elect.
C622	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.
C689	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Carbon
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/8W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	Common	4.3meg ohm, 5%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	Common	6.2K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X125	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon
R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	220K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	Common	30K ohm, 5%, 1/8W, Carbon

R649	ES14X71	1K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X125	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	EP14X288	30K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	Common	36K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X234	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X494

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X149	10 μ f, 20%, 35V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C106	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047 μ f, 10%, 50V, Polyester
C509	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi-Polar, Elect.
C511	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C605	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C606	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C607	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C608	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C609	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X179	4.7 μ f, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C620	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C621	EP31X166	1 μ f, 20%, 50V, Elect.
C622	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.
C689	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	Common	1.8K ohm, 5%, 1/2W, Carbon

R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/8W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	Common	4.3 Meg ohm, 5%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	EP14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	Common	6.8K ohm, 5%, 1/8W, Carbon
R602	Common	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X125	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon
R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	220K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	Common	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon

R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X125	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	EP14X288	30K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	EP14X104	22K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 Terminal Voltage Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X234	Control Microprocessor
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	B+ Switch, NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	Standby Power, NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%
X500	EP41X68	CRYSTAL-Filter

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X492

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X163	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X149	10 μ f, 20%, 35V, Elect.
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C106	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 5%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047 μ f, 10%, 50, Polyester
C509	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X287	.022 μ f, +80-20%, 50V, HiK Cer. Disc
C601	EP18X287	.022 μ f, +80-20%, 50V, HiK Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022 μ f, +80-20%, HiK, Cer. Disc
C605	EP18X287	.022 μ f, +80-20%, HiK, Cer. Disc
C606	EP18X287	.022 μ f, +80-20%, HiK, Cer. Disc
C607	EP18X287	.022 μ f, +80-20%, HiK, Cer. Disc
C608	EP18X287	.022 μ f, +80-20%, HiK, Cer. Disc
C609	EP18X287	.022 μ f, +80-20%, HiK, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7 μ f, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022 μ f, +80-20%, HiK, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022 μ f, +80-20%, HiK, Cer. Disc
C620	EP18X287	.022 μ f, +80-20%, HiK, Cer. Disc
C621	EP18X287	.022 μ f, +80-20%, HiK, Cer. Disc
C622	EP18X287	.022 μ f, +80-20%, HiK, Cer. Disc
C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X287	.022 μ f, +80-20%, HiK, Cer. Disc
C625	EP18X287	.022 μ f, +80-20%, HiK, Cer. Disc
C626	EP18X287	.022 μ f, +80-20%, HiK, Cer. Disc
C627	EP18X287	.022 μ f, +80-20%, HiK, Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.
C689	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon

R103	Common	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	Common	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/8W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	Common	4.3 Meg ohm, 5%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	EP14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	Common	6.8K ohm, 5%, 1/8W, Carbon
R602	Common	18K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X125	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon
R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	220K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R641A	EP14X105	100K ohm, 5%, 1/4W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	Common	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon

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R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X125	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	EP14X288	30K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	Common	36K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X476	100K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REGULATOR
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X234	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q504	EP15X87	NPN, Silicon
Q601	EP15X57	PNP, Silicon
Q602	EP15X57	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	NPN, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	NPN, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y600	ES16X27	Silicon
Y801	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

TUNER CONTROL CIRCUIT BOARD **EP93X508**

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X149	10 μ f, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047 μ f, 10%, 50V, Polyester
C509	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C605	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C606	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C607	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C608	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C609	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7 μ f, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C620	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C621	EP31X166	1 μ f, 20%, 50V, Elect.
C622	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.
C689	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X407	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide

R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	EP14X344	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/4W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	EP14X430	4.3meg ohm, 5%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/4W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	EP14X427	200K ohm, 5%, 1/8W, Carbon
R520	EP14X428	82 ohm, 5%, 1/4W, Carbon
R601	EP14X394	6.2K ohm, 5%, 1/8W, Carbon
R602	EP14X429	16K ohm, 5%, 1/4W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	ES14X70	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/4W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R613	ES14X70	1.2K ohm, 5%, 1/8W, Carbon
R614	ES14X70	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X131	47K ohm, 5%, 1/4W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/4W, Carbon
R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	100K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	EP14X288	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/4W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon

R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X131	47K ohm, 5%, 1/4W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/4W, Carbon
R672	EP14X103	10K ohm, 5%, 1/4W, Carbon
R673	EP14X103	10K ohm, 5%, 1/4W, Carbon
R674	EP14X103	10K ohm, 5%, 1/4W, Carbon
R675	EP14X103	10K ohm, 5%, 1/4W, Carbon
R676	EP14X103	10K ohm, 5%, 1/4W, Carbon
R677	EP14X419	30K ohm, 5%, 1/4W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	EP14X426	36K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/4W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	EP14X129	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X234	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L110	EP36X33	CHOKE-56 μ h, 5%
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X509

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X47	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X149	10 μ f, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047 μ f, 10%, 50V, Polyester
C509	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C604	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C605	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C606	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C607	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C608	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C609	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7 μ f, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C620	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C621	EP31X166	1 μ f, 20%, 50V, Elect.
C622	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.
C660	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C689	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X437	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon

R103	EP14X361	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Carbon
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	EP14X434	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/8W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	EP14X430	4.7 meg ohm, 5%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	EP14X427	200K ohm, 5%, 1/8W, Carbon
R520	EP14X212	82 ohm, 5%, 1/8W, Carbon
R601	EP14X394	6.2K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	EP14X444	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	EP14X444	1.2K ohm, 5%, 1/8W, Carbon
R614	EP14X444	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X125	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/8W, Carbon
R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	220K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	EP14X419	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/8W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon

PC CHASSIS

R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X125	47K ohm, 5%, 1/8W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	EP14X288	30K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	EP14X426	36K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	EP14X445	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X234	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X530

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X149	10 μ f, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C500	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047 μ f, 10%, 50V, Polyester
C509	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C602	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C603	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C604	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C605	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C606	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C607	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C608	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C609	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7 μ f, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C621	EP31X166	1 μ f, 20%, 50V, Elect.
C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.
C660	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X407	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon

R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	EP14X344	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/4W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	EP14X430	4.7meg ohm, 5%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/4W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	EP14X427	200K ohm, 5%, 1/8W, Carbon
R520	EP14X428	82 ohm, 5%, 1/4W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	ES14X70	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/4W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R613	ES14X70	1.2K ohm, 5%, 1/8W, Carbon
R614	ES14X70	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R601	EP14X394	6.2K ohm, 5%, 1/8W, Carbon
R602	EP14X429	16K ohm, 5%, 1/4W, Carbon
R624	EP14X427	200K ohm, 5%, 1/8W, Carbon
R625	EP14X427	200K ohm, 5%, 1/8W, Carbon
R626	EP14X427	200K ohm, 5%, 1/8W, Carbon
R627	EP14X427	200K ohm, 5%, 1/8W, Carbon
R628	EP14X427	200K ohm, 5%, 1/8W, Carbon
R629	EP14X427	200K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X131	47K ohm, 5%, 1/4W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/4W, Carbon
R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	100K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	EP14X288	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/4W, Carbon

R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X131	47K ohm, 5%, 1/4W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/4W, Carbon
R672	EP14X103	10K ohm, 5%, 1/4W, Carbon
R673	EP14X103	10K ohm, 5%, 1/4W, Carbon
R674	EP14X103	10K ohm, 5%, 1/4W, Carbon
R675	EP14X103	10K ohm, 5%, 1/4W, Carbon
R676	EP14X103	10K ohm, 5%, 1/4W, Carbon
R677	EP14X386	51K ohm, 5%, 1/4W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R688	EP14X103	10K ohm, 5%, 1/4W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	EP14X129	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R696	EP14X103	10K ohm, 5%, 1/4W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X245	CONTROL MICROPROCESSOR
IC800	EP84X246	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L110	EP36X33	CHOKE-56 μ h, 5%
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X531

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X149	10 μ f, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047 μ f, 10%, 50V, Polyester
C509	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C604	EP22X32	.01 μ f, +80-20%, 50V, Cer. Disc
C605	EP22X32	.01 μ f, +80-20%, 50V, HiK, Cer. Disc
C606	EP22X32	.01 μ f, +80-20%, 50V, HiK, Cer. Disc
C607	EP22X32	.01 μ f, +80-20%, 50V, HiK, Cer. Disc
C608	EP22X32	.01 μ f, +80-20%, 50V, HiK, Cer. Disc
C609	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7 μ f, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C620	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C621	EP31X166	1 μ f, 20%, 50V, Elect.
C622	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.

C650	EP31X149	10 μ f, 20%, 35V, Elect.
C689	EP31X149	10 μ f, 20%, 35V, Elect.
C660	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X407	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	EP14X344	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/4W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	EP14X430	4.7meg ohm, 10%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/4W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	EP14X427	200K ohm, 5%, 1/8W, Carbon
R520	EP14X428	82 ohm, 5%, 1/4W, Carbon
R601	EP14X394	6.2K ohm, 5%, 1/8W, Carbon
R602	EP14X429	16K ohm, 5%, 1/4W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	ES14X54	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/4W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R613	ES14X54	1.2K ohm, 5%, 1/8W, Carbon
R614	ES14X54	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X427	200K ohm, 5%, 1/8W, Carbon
R625	EP14X427	200K ohm, 5%, 1/8W, Carbon
R626	EP14X427	200K ohm, 5%, 1/8W, Carbon
R627	EP14X427	200K ohm, 5%, 1/8W, Carbon
R628	EP14X427	200K ohm, 5%, 1/8W, Carbon
R629	EP14X427	200K ohm, 5%, 1/8W, Carbon
R630	EP14X131	47K ohm, 5%, 1/4W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/4W, Carbon
R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	100K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon

PC CHASSIS

R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	EP14X288	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/4W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X131	47K ohm, 5%, 1/4W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/4W, Carbon
R672	EP14X103	10K ohm, 5%, 1/4W, Carbon
R673	EP14X103	10K ohm, 5%, 1/4W, Carbon
R674	EP14X103	10K ohm, 5%, 1/4W, Carbon
R675	EP14X103	10K ohm, 5%, 1/4W, Carbon
R676	EP14X103	10K ohm, 5%, 1/4W, Carbon
R677	EP14X419	30K ohm, 5%, 1/4W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	EP14X426	36K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/4W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	EP14X129	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	VOLUME SET-250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. 9V REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM INTERFACE
IC601	EP84X234	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	-27V Clamp, PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q504	EP15X87	NPN, Silicon
Q601	EP15X225	B+ Switch, PNP, Silicon
Q602	EP15X225	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	P Volume, NPN, Silicon
Q610	EP15X88	E/A Volume, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	Relay Driver, NPN, Silicon
Q615	EP15X48	Reset, PNP, Silicon
Q800	EP15X87	EAROM Output Buffer, NPN, Silicon
Q801	EP15X48	EAROM Output Buffer, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener, 10V
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 5.1V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	ES16X27	Silicon

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15μh, 10%
L501	EP36X136	CHOKE-15μh, 10%
L502	EP36X136	CHOKE-15μh, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP8X127	JACK-Phono
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X538

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X149	10 μ f, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C508	EP25X131	.01 μ f, 10%, 50V, Polyester
C509	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C510	EP31X172	.47 μ f, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C521	EP18X290	12pf, 5%, 50V, Cer. Disc
C522	EP18X189	47pf, 5%, 50V, Cer. Disc
C600	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C602	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C603	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C604	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C605	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C606	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C607	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C608	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C609	EU22X216	.01 μ f, 10%, 50V, HiK, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7 μ f, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C621	EP31X166	1 μ f, 20%, 50V, Elect.
C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X149	10 μ f, 20%, 35V, Elect.
C660	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C689	EP31X149	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X407	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon

R106	EP14X344	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/4W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	EP14X430	4.7meg ohm, 5%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/4W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	EP14X427	200K ohm, 5%, 1/8W, Carbon
R520	EP14X428	82 ohm, 5%, 1/4W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	ES14X54	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/4W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R613	ES14X54	1.2K ohm, 5%, 1/8W, Carbon
R614	ES14X54	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X427	200K ohm, 5%, 1/8W, Carbon
R625	EP14X427	200K ohm, 5%, 1/8W, Carbon
R626	EP14X427	200K ohm, 5%, 1/8W, Carbon
R627	EP14X427	200K ohm, 5%, 1/8W, Carbon
R628	EP14X427	200K ohm, 5%, 1/8W, Carbon
R629	EP14X427	200K ohm, 5%, 1/8W, Carbon
R630	EP14X131	47K ohm, 5%, 1/4W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/4W, Carbon
R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	100K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	EP14X288	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/4W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon

PC CHASSIS

R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X131	47K ohm, 5%, 1/4W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/4W, Carbon
R672	EP14X103	10K ohm, 5%, 1/4W, Carbon
R673	EP14X103	10K ohm, 5%, 1/4W, Carbon
R674	EP14X103	10K ohm, 5%, 1/4W, Carbon
R675	EP14X103	10K ohm, 5%, 1/4W, Carbon
R676	EP14X103	10K ohm, 5%, 1/4W, Carbon
R677	EP14X193	47K ohm, 5%, 1/4W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R688	EP14X103	10K ohm, 5%, 1/4W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	EP14X129	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	AFC Comparator, PNP, Silicon
Q607	EP15X88	AFC Comparator, NPN, Silicon
Q608	EP15X88	AFC Comparator, NPN, Silicon
Q609	EP15X88	P Volume, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	Relay Driver, NPN, Silicon
Q615	EP15X48	Reset, PNP, Silicon
Q800	EP15X87	Earom Output Buffer, NPN, Silicon
Q801	EP15X48	Earom Output Buffer, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener, 10V
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15uh, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%
X500	EP41X68	CRYSTAL-Qtz. Filter

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	VOLUME SET-250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL 9V REG.
IC500	EP84X243	PLL/PRESCALE
IC600	EP84X222	CUSTOM INTERFACE
IC601	EP84X244	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	-27V Clamp, PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon

MISCELLANEOUS

PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X541

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	31X45	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X149	10 μ f, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C508	EP25X87	.047 μ f, 10%, 50V, Polyester
C509	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C601	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C605	EU22X216	.01 μ f, + 80-20%, 50V, HiK, Cer. Disc
C606	EU22X216	.01 μ f, + 80-20%, 50V, HiK, Cer. Disc
C607	EU22X216	.01 μ f, + 80-20%, 50V, HiK, Cer. Disc
C608	EU22X216	.01 μ f, + 80-20%, 50V, HiK, Cer. Disc
C609	EU22X216	.01 μ f, + 80-20%, 50V, HiK, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X170	4.7 μ f, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C619	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C620	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C621	EP31X166	1 μ f, 20%, 50V, Elect.
C622	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C623	EP31X149	10 μ f, 20%, 35V, Elect.
C624	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C625	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C626	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C627	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.

C650	EP31X149	10 μ f, 20%, 35V, Elect.
C689	EP31X149	10 μ f, 20%, 35V, Elect.
C660	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X407	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	EP14X344	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/4W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	EP14X430	4.7meg ohm, 10%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/4W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	EP14X427	200K ohm, 5%, 1/8W, Carbon
R520	EP14X428	82 ohm, 5%, 1/4W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	ES14X54	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/4W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R613	ES14X54	1.2K ohm, 5%, 1/8W, Carbon
R614	ES14X54	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X427	200K ohm, 5%, 1/8W, Carbon
R625	EP14X427	200K ohm, 5%, 1/8W, Carbon
R626	EP14X427	200K ohm, 5%, 1/8W, Carbon
R627	EP14X427	200K ohm, 5%, 1/8W, Carbon
R628	EP14X427	200K ohm, 5%, 1/8W, Carbon
R629	EP14X427	200K ohm, 5%, 1/8W, Carbon
R630	EP14X131	47K ohm, 5%, 1/4W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/4W, Carbon
R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	100K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon

R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	EP14X288	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/4W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X131	47K ohm, 5%, 1/4W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/4W, Carbon
R672	EP14X103	10K ohm, 5%, 1/4W, Carbon
R673	EP14X103	10K ohm, 5%, 1/4W, Carbon
R674	EP14X103	10K ohm, 5%, 1/4W, Carbon
R675	EP14X103	10K ohm, 5%, 1/4W, Carbon
R676	EP14X103	10K ohm, 5%, 1/4W, Carbon
R677	EP14X419	30K ohm, 5%, 1/4W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	EP14X426	36K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/4W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	EP14X129	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	VOLUME SET-250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. 9V REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM INTERFACE
IC601	EP84X234	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	-27V Clamp, PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q601	EP15X225	B+ Switch, PNP, Silicon
Q602	EP15X225	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	P Volume, NPN, Silicon
Q610	EP15X88	E/A Volume, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	Relay Driver, NPN, Silicon
Q615	EP15X48	Reset, PNP, Silicon
Q800	EP15X87	EAROM Output Buffer, NPN, Silicon
Q801	EP15X48	EAROM Output Buffer, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener, 10V
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L110	EP36X33	CHOKE-56 μ h, 5%
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP8X127	JACK-Phono
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X566

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X150	10 μ f, 20%, 35V, Elect.
C104	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C105	ES22X6	1000pf, 10%, 50V, NPO, Cer. Disc
C106	EP18X32	.01 μ f, 10%, 50V, HiK, Cer. Disc
C504	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, 10%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C508	EP25X131	.01 μ f, 10%, 50V, Polyester
C509	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C510	EP31X172	.47 μ f, 20%, 50V, Elect.
C511	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C521	EP18X188	33pf, 5%, 50V, NPO, Cer. Disc
C522	EP18X188	33pf, 5%, 50V, NPO, Cer. Disc
C600	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C601	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, HiK, Cer. Disc
C605	ES22X32	.01 μ f, +80-20%, 50V, HiK, Cer. Disc
C606	ES22X32	.01 μ f, +80-20%, 50V, HiK, Cer. Disc
C607	ES22X32	.01 μ f, +80-20%, 50V, HiK, Cer. Disc
C608	ES22X32	.01 μ f, +80-20%, 50V, HiK, Cer. Disc
C609	ES22X32	.01 μ f, +80-20%, 50V, HiK, Cer. Disc
C610	EP18X204	470pf, 10%, 50V, Cer. Disc
C611	EP31X144	4.7 μ f, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C621	EP31X166	1 μ f, 20%, 50V, Elect.
C623	EP31X150	10 μ f, 20%, 35V, Elect.
C624	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C625	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C626	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C627	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X150	10 μ f, 20%, 35V, Elect.
C689	EP31X150	10 μ f, 20%, 35V, Elect.
C660	EP18X287	.022 μ f, +80-20%, 50V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X437	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	EP14X480	1.8K ohm, 5%, 1/2W, Carbon
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	EP14X434	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon

R507	EP14X285	15K ohm, 5%, 1/8W, Carbon
R508	EP14X430	4.7meg ohm, 10%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/4W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	EP14X427	200K ohm, 5%, 1/8W, Carbon
R520	EP14X428	82 ohm, 5%, 1/4W, Carbon
R599	EP14X414	18K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	ES14X54	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/4W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R613	ES14X54	1.2K ohm, 5%, 1/8W, Carbon
R614	ES14X54	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X427	200K ohm, 5%, 1/8W, Carbon
R625	EP14X427	200K ohm, 5%, 1/8W, Carbon
R626	EP14X427	200K ohm, 5%, 1/8W, Carbon
R627	EP14X427	200K ohm, 5%, 1/8W, Carbon
R628	EP14X427	200K ohm, 5%, 1/8W, Carbon
R629	EP14X427	200K ohm, 5%, 1/8W, Carbon
R630	EP14X125	47K ohm, 5%, 1/4W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/4W, Carbon
R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	100K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	EP14X419	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/4W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon

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R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X125	47K ohm, 5%, 1/4W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/4W, Carbon
R672	EP14X103	10K ohm, 5%, 1/4W, Carbon
R673	EP14X103	10K ohm, 5%, 1/4W, Carbon
R674	EP14X284	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/4W, Carbon
R676	EP14X284	10K ohm, 5%, 1/8W, Carbon
R677	EP14X386	51K ohm, 5%, 1/4W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R687	EP14X104	22K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/4W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	EP14X318	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. 9V REG.
IC501	EP84X257	PLL/PRESCALE
IC600	EP84X222	CUSTOM INTERFACE
IC601	EP84X244	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	-27V Clamp, PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q601	EP15X225	B+ Switch, PNP, Silicon
Q602	EP15X225	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	P Volume, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	Relay Driver, NPN, Silicon
Q615	EP15X48	Reset, PNP, Silicon
Q800	EP15X87	EAROM Output Buffer, NPN, Silicon
Q801	EP15X48	EAROM Output Buffer, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener, 10V
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X163	Zener, 30V
Y110	EU16X11	Silicon
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	ES16X27	Silicon

COILS

REF. NO.	PART NO.	DESCRIPTION
L501	EP36X136	CHOKE-15 μ h, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP8X127	JACK-Phono
EP34X41	SOCKET-IC100

TUNER CONTROL CIRCUIT BOARD

EP93X589

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47 μ f, 20%, 50V, Elect.
C101	EP31X162	100 μ f, 20%, 25V, Elect.
C102	EP31X163	47 μ f, 20%, 25V, Elect.
C103	EP31X150	10 μ f, 20%, 35V, Elect.
C104	ES22X6	1000pf, + 80-20%, 50V, HiK, Cer. Disc
C105	ES22X6	1000pf, + 80-20%, 50V, HiK, Cer. Disc
C106	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C500	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150, Cer. Disc
C503	ES22X6	1000pf, + 80-20%, 50V, HiK, Cer. Disc
C504	ES22X6	1000pf, + 80-20%, 50V, HiK, Cer. Disc
C505	ES22X6	1000pf, + 80-20%, 50V, HiK, Cer. Disc
C506	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C508	EP25X87	.047 μ f, 10%, 50V, Polyester
C509	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1 μ f, 20%, 50V, Bi Polar, Elect.
C511	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C516	EP25X131	.01 μ f, 10%, 50V, Polyester
C600	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C601	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C602	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C603	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C604	EP22X32	.01 μ f, + 80-20%, 50V, HiK, Cer. Disc
C605	EP22X32	.01 μ f, + 80-20%, 50V, HiK, Cer. Disc
C606	EP22X32	.01 μ f, + 80-20%, 50V, HiK, Cer. Disc
C607	EP22X32	.01 μ f, + 80-20%, 50V, HiK, Cer. Disc
C608	EP22X32	.01 μ f, + 80-20%, 50V, HiK, Cer. Disc
C609	EP18X262	.01 μ f, 10%, 50V, SHiK, Cer. Disc
C610	EP17X2	470pf, 10%, 50V, Cer. Chip
C611	EP31X144	4.7 μ f, 20%, 35V, Elect.
C612	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C616	EP18X269	100pf, 5%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 5%, 50V, NPO, Cer. Disc
C621	EP31X166	1 μ f, 20%, 50V, Elect.
C623	EP31X150	10 μ f, 20%, 35V, Elect.
C624	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C625	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C626	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C627	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C629	EP31X173	2.2 μ f, 20%, 50V, Elect.
C650	EP31X150	10 μ f, 20%, 35V, Elect.
C660	EP18X287	.022 μ f, + 80-20%, 50V, Cer. Disc
C689	EP31X150	10 μ f, 20%, 35V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X437	3.9K ohm, 5%, 1/8W, Carbon
R102	ES14X58	470 ohm, 5%, 1/4W, Carbon
R103	EP14X480	1.8K ohm, 5%, 1/2W, Metal Oxide
R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	EP14X182	68 ohm, 5%, 1/4W, Carbon
R106	EP14X434	39 ohm, 5%, 1/8W, Carbon
R202	EP14X284	10K ohm, 5%, 1/8W, Carbon
R500	ES14X71	1K ohm, 5%, 1/4W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	EP14X430	4.7 meg ohm, 10%, 1/4W, Carbon
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X59	560 ohm, 5%, 1/8W, Carbon
R512	EP14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	ES14X71	1K ohm, 5%, 1/4W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	EP14X427	200K ohm, 5%, 1/8W, Carbon
R520	EP14X428	82 ohm, 5%, 1/4W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	ES14X54	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X104	22K ohm, 5%, 1/4W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R613	ES14X54	1.2K ohm, 5%, 1/8W, Carbon
R614	ES14X54	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X427	200K ohm, 5%, 1/8W, Carbon
R625	EP14X427	200K ohm, 5%, 1/8W, Carbon
R626	EP14X427	200K ohm, 5%, 1/8W, Carbon
R627	EP14X427	200K ohm, 5%, 1/8W, Carbon
R628	EP14X427	200K ohm, 5%, 1/8W, Carbon
R629	EP14X427	200K ohm, 5%, 1/8W, Carbon
R630	EP14X131	47K ohm, 5%, 1/4W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R637	EP14X103	10K ohm, 5%, 1/4W, Carbon
R638	EP14X284	1K ohm, 5%, 1/8W, Carbon
R639	EP14X303	100K ohm, 5%, 1/8W, Carbon
R641	EP14X271	33K ohm, 5%, 1/8W, Carbon
R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
R648	EP14X419	30K ohm, 5%, 1/8W, Carbon
R649	ES14X71	1K ohm, 5%, 1/4W, Carbon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon

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R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
R667	EP14X131	47K ohm, 5%, 1/4W, Carbon
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X193	47K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/4W, Carbon
R672	EP14X103	10K ohm, 5%, 1/4W, Carbon
R673	EP14X103	10K ohm, 5%, 1/4W, Carbon
R674	EP14X103	10K ohm, 5%, 1/4W, Carbon
R675	EP14X103	10K ohm, 5%, 1/4W, Carbon
R676	EP14X103	10K ohm, 5%, 1/4W, Carbon
R677	EP14X386	51K ohm, 5%, 1/4W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R684	EP14X193	47K ohm, 5%, 1/8W, Carbon
R685	EP14X303	470 ohm, 5%, 1/8W, Carbon
R688	EP14X103	10K ohm, 5%, 1/4W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	EP14X318	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R696	EP14X103	10K ohm, 5%, 1/4W, Carbon
R697	EP14X193	47K ohm, 5%, 1/8W, Carbon
R698	EP14X193	47K ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R640	EP49X486	TRIMMER-250K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOLTAGE REGULATOR
IC500	EP84X220	PRESALER/PLL
IC600	EP84X222	CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Silicon, NPN
Q202	EP15X48	Silicon, PNP
Q502	EP15X109	Silicon, NPN
Q503	EP15X87	Silicon, NPN
Q601	EP15X225	Silicon, PNP
Q602	EP15X225	Silicon, PNP
Q603	EP15X87	Silicon, NPN
Q604	EP15X48	Silicon, PNP
Q605	EP15X48	Silicon, PNP
Q606	EP15X48	Silicon, PNP
Q607	EP15X88	Silicon, NPN
Q608	EP15X88	Silicon, NPN
Q609	EP15X88	Silicon, NPN
Q611	EP15X48	Silicon, PNP
Q612	EP15X48	Silicon, PNP
Q614	EP15X87	Silicon, NPN
Q615	EP15X48	Silicon, PNP
Q800	EP15X87	Silicon, NPN
Q801	EP15X48	Silicon, PNP

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener, 10V
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X163	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	ES16X27	Silicon

COILS

REF. NO.	PART NO.	DESCRIPTION
L110	EP36X33	CHOKE-56 μ h, 5%
L500	EP36X136	CHOKE-15 μ h, 10%
L501	EP36X136	CHOKE-15 μ h, 10%
L502	EP36X136	CHOKE-15 μ h, 10%
X500	EP41X68	CRYSTAL-Qtz Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP8X127	JACK-Phono
EP34X41	SOCKET-Transistor

REMOTE CONTROL TRANSMITTER ASM

EP62X164

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC901	EP84X232	IC-Remote Control Transmitter

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q901	EP15X88	NPN, Silicon
Q902	EP15X88	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y901	EP16X33	Infrared
Y902	EP16X33	Infrared
Y904	ES16X27	Silicon

MISCELLANEOUS

PART NO.	DESCRIPTION
Common	BATTERY-1.5V, AAA
EP47X55	BUTTON-On/Off, Mute/Vol. Up & Down
EP2X569	Channel Up & Down/Add/Clear CLIPS-Battery Contacts, Positive, Negative & Bridge
EP47X57	CAP-Program Switch
EP4X370	CASE-Top, Bottom, Battery Cover, W/Medallion
EP4X371	COVER-Battery, Plastic
EP93X416	MAIN CIRCUIT BOARD-Complete (No Parts Available For Repair)

REMOTE CONTROL TRANSMITTER ASM

EP62X165

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC901	EP84X232	IC-Remote Control Transmitter

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q901	EP15X88	NPN, Silicon
Q902	EP15X88	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y901	EP16X33	Infrared
Y902	EP16X33	Infrared
Y904	ES16X27	Silicon

MISCELLANEOUS

PART NO.	DESCRIPTION
Common	BATTERY-1.5V, AAA
EP47X55	BUTTON-On/Off, Mute/Vol. Up & Down
EP2X569	Channel Up & Down/Add/Clear CLIPS-Battery Contacts, Positive, Negative & Bridge
EP47X56	BUTTON-Enter
EP47X57	CAP-Program Switch
EP4X372	CASE-Top, Bottom, Battery Cover, W/Medallion
EP4X373	COVER-Battery, Plastic
EP93X416	MAIN CIRCUIT BOARD-Complete (No Parts Available For Repair)

REMOTE CONTROL TRANSMITTER ASM

EP62X179

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC901	EP84X232	IC-Remote Control Transmitter

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q901	EP15X88	NPN, Silicon
Q902	EP15X88	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y901	EP16X33	Infrared
Y902	EP16X33	Infrared
Y904	ES16X27	Silicon

MISCELLANEOUS

PART NO.	DESCRIPTION
Common	BATTERY-1.5V, AAA
EP47X55	BUTTON-On/Off, Mute/Vol. Up & Down
EP2X569	Channel Up & Down/Add/Clear etc. CLIPS-Battery Contacts, Positive, Negative, & Bridge
EP4X56	BUTTON-Enter
EP47X57	CAP-Program Switch
EP4X428	CASE-Top, Bottom, & Battery Cover
EP4X373	COVER-Battery, Plastic
EP93X416	MAIN CIRCUIT BOARD-Complete (No Parts Available For Repair)

REMOTE CONTROL TRANSMITTER ASM

EP62X195

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC901	EP84X232	IC-Remote Control Transmitter

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q901	EP15X88	NPN, Silicon
Q902	EP15X88	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y901	EP16X33	Infrared
Y902	EP16X33	Infrared

MISCELLANEOUS

PART NO.	DESCRIPTION
Common	BATTERY-1.5V, AAA
EP47X55	BUTTON-On/Off, Vol. Up & Down Channel Up & Down, Add /Clear etc.
EP47X56	BUTTON-Enter
EP2X569	CLIPS-Battery Contacts, Positive,
EP47X67	CAP-Program Switch, W/Switch Contact
EP4X505	CASE-Top, Bottom, & Battery Cover
EP4X373	COVER-Battery, Plastic
EP93X416	MAIN CIRCUIT BOARD-Complete (No Parts Available For Repair)

REMOTE CONTROL TRANSMITTER ASM

EP62X196

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC901	EP84X232	IC-Remote Control Transmitter

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q901	EP15X88	NPN, Silicon
Q902	EP15X88	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y901	EP16X33	Infrared
Y902	EP16X33	Infrared

MISCELLANEOUS

PART NO.	DESCRIPTION
Common	BATTERY-.5V, AAA
EP47X55	BUTTON-On/Off, Mute/Vol. Up & Down, Channel Up & Down/ Add/Clear, etc.
EP2X569	CLIPS-Battery Contacts, Positive, Negative & Bridge
EP47X67	BUTTON-Enter
EP47X57	CAP-Program Switch
EP4X469	CASE-Top, Bottom, Battery Cover, W/Medallion
EP4X470	COVER-Battery, Plastic
EP93X416	MAIN CIRCUIT BOARD-Complete (No Parts Available For Repair)

REMOTE CONTROL TRANSMITTER ASM

EP62X197

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC901	EP84X232	IC-Remote Control Transmitter

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q901	EP15X88	NPN, Silicon
Q902	EP15X88	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y901	EP16X33	Infrared
Y902	EP16X33	Infrared

MISCELLANEOUS

PART NO.	DESCRIPTION
Common	BATTERY-1.5V, AAA
EP47X55	BUTTON-On/Off, Mute/Vol. Up & Down, Channel Up & Down/ Add/Clear, etc.
EP47X56	BUTTON-Enter
EP47X67	BUTTON-Program Lock, W/Switch Contact
EP47X57	CAP-Program Switch
EP4X485	CASE-Top, Bottom, & Battery Cover
EP2X569	CLIPS-Battery Contacts, Positive, Negative & Bridge
EP4X470	COVER-Battery, Plastic
EP93X416	MAIN CIRCUIT BOARD-Complete (No Parts Available For Repair)

REMOTE CONTROL TRANSMITTER ASM

EP52X198

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC901	EP84X232	IC-Remote Control Transmitter

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q901	EP15X88	NPN, Silicon
Q902	EP15X88	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y901	EP16X33	Infrared
Y902	EP16X33	Infrared

MISCELLANEOUS

PART NO.	DESCRIPTION
Common	BATTERY-1.5V, AAA
EP47X55	BUTTON-On/Off, Vol. Up & Down, Channel Up & Down, Add /Clear etc.
EP4X56	BUTTON-Enter
EP2X569	CLIPS-Battery Contacts, Positive, Negative, & Bridge
EP47X67	CAP-Program Switch, W/Switch Contact
EP4X507	CASE-Top, Bottom, & Battery Cover
EP4X470	COVER-Battery, Plastic
EP93X416	MAIN CIRCUIT BOARD-Complete (No Parts Available For Repair)

REMOTE CONTROL RECEIVER CIRCUIT BOARD

EP93X417

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C701	EP31X149	10 μ f, 20%, 35V, Elect.
C702	EP31X149	10 μ f, 20%, 35V, Elect.
C703	EP31X149	10 μ f, 20%, 35V, Elect.
C704	EP25X156	3300pf, 5%, 100V, Polypropylene
C705	EP31X163	47 μ f, 20%, 16V, Elect.
C706	EP25X157	.033 μ f, 20%, 50V, Polyester
C707	EP18X204	470pf, 10%, 50V, HiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R701	EP14X284	1K ohm, 5%, 1/8W, Carbon
R702	Common	150K ohm, 5%, 1/8W, Carbon
R703	Common	51 ohm, 5%, 1/8W, Carbon
R704	EP14X303	100K ohm, 5%, 1/8W, Carbon
R705	ES14X70	100 ohm, 5%, 1/8W, Carbon

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC701	EP84X227	Infrared Preamplifier

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y701	EP16X135	Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L701	EP36X447	COIL-Tuning

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL245	EP8X67	CONNECTOR-4 Pos.
	EP2X552	LENS-Remote Control

REMOTE CONTROL RECEIVER CIRCUIT BOARD

EP93X475

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C701	EP31X149	10 μ f, 20%, 35V, Elect.
C702	EP31X149	10 μ f, 20%, 35V, Elect.
C703	EP31X163	47 μ f, 20%, 16V, Elect.
C704	EP25X156	3300pf, 5%, 100V, Polypropylene
C705	EP31X163	47 μ f, 20%, 16V, Elect.
C706	EP25X77	.1 μ f, 20%, 50V, Polyester
C707	EP18X204	470pf, 10%, 50V, HiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R701	EP14X284	1K ohm, 5%, 1/8W, Carbon
R702	Common	62K ohm, 5%, 1/8W, Carbon
R703	EP14X188	15 ohm, 5%, 1/8W, Carbon
R704	EP14X104	22K ohm, 5%, 1/8W, Carbon
R705	EP14X187	100 ohm, 5%, 1/8W, Carbon

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC701	EP84X227	Infrared Preamplifier

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y701	EP16X135	Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L701	EP36X447	COIL-Tuning

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL245	EP8X67	CONNECTOR-4 Pos.
	EP2X552	LENS-Remote Control

REMOTE CONTROL RECEIVER CIRCUIT BOARD

EP93X476

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C701	EP31X35	10 μ f, 20%, 35V, Elect.
C702	EP31X35	10 μ f, 20%, 35V, Elect.
C703	EP31X163	47 μ f, 20%, 16V, Elect.
C704	EP25X156	3300pf, 5%, 100V, Polypropylene
C705	EP31X163	47 μ f, 20%, 16V, Elect.
C706	EP25X77	.1 μ f, 20%, 50V, Polyester
C707	EP18X204	470pf, 10%, 50V, HiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R701	EP14X284	1K ohm, 5%, 1/8W, Carbon
R702	Common	62K ohm, 5%, 1/8W, Carbon
R703	EP14X188	15 ohm, 5%, 1/8W, Carbon
R704	EP14X104	33K ohm, 5%, 1/8W, Carbon
R705	EP14X187	100 ohm, 5%, 1/8W, Carbon

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC701	EP84X227	Infrared Preamplifier

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y701	EP16X135	Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L701	EP36X447	COIL-Tuning

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL245	EP8X67	CONNECTOR-4 Pos.
	EP2X552	LENS-Remote Control

REMOTE CONTROL RECEIVER CIRCUIT BOARD

EP93X478

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C701	EP31X35	10 μ f, 20%, 35V, Elect.
C702	EP31X35	10 μ f, 20%, 35V, Elect.
C703	EP31X163	47 μ f, 20%, 16V, Elect.
C704	EP25X156	3300pf, 5%, 100V, Polypropylene
C705	EP31X163	47 μ f, 20%, 16V, Elect.
C706	EP25X77	.1 μ f, 20%, 50V, Polyester
C707	EP18X204	470pf, 10%, 50V, HiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R701	EP14X284	1K ohm, 5%, 1/8W, Carbon
R702	Common	62K ohm, 5%, 1/8W, Carbon
R703	EP14X188	15 ohm, 5%, 1/8W, Carbon
R704	EP14X104	33K ohm, 5%, 1/8W, Carbon
R705	EP14X187	100 ohm, 5%, 1/8W, Carbon

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC701	EP84X227	Infrared Preamplifier

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y701	EP16X135	Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L701	EP36X447	COIL-Tuning

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL245	EP8X67	CONNECTOR-4 Pos.
	EP2X552	LENS-Remote Control

REMOTE CONTROL RECEIVER CIRCUIT BOARD

EP93X479

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C701	EP31X35	10 μ f, 20%, 35V, Elect.
C702	EP31X35	10 μ f, 20%, 35V, Elect.
C703	EP31X163	47 μ f, 20%, 16V, Elect.
C704	EP25X156	3300pf, 5%, 100V, Polypropylene
C705	EP31X163	47 μ f, 20%, 16V, Elect.
C706	EP25X77	.1 μ f, 20%, 50V, Polyester
C707	EP18X204	470pf, 10%, 50V, HiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R701	EP14X284	1K ohm, 5%, 1/8W, Carbon
R702	Common	62K ohm, 5%, 1/8W, Carbon
R703	EP14X188	15 ohm, 5%, 1/8W, Carbon
R704	EP14X104	33K ohm, 5%, 1/8W, Carbon
R705	EP14X187	100 ohm, 5%, 1/8W, Carbon

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC701	EP84X227	Infrared Preamplifier

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y701	EP16X135	Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L701	EP36X447	COIL-Tuning

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL245	EP8X67	CONNECTOR-4 Pos.
	EP2X552	LENS-Remote Control

REMOTE CONTROL RECEIVER CIRCUIT BOARD

EP93X480/EP93X481/
EP93X482/EP93X483

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C701	EP31X149	10 μ f, 20%, 35V, Elect.
C702	EP31X149	10 μ f, 20%, 35V, Elect.
C703	EP31X149	10 μ f, 20%, 35V, Elect.
C704	EP25X156	3300pf, 5%, 100V, Polypropylene
C705	EP31X162	100 μ f, 20%, 25V, Elect.
C706	EP25X157	.033 μ f, 20%, 50V, Polyester
C707	EP18X204	470pf, 10%, 50V, HiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R701	EP14X284	1K ohm, 5%, 1/8W, Carbon
R702	EP14X105	100K ohm, 5%, 1/4W, Carbon
R703	EP14X441	24 ohm, 5%, 1/4W, Carbon
R704	EP14X105	100K ohm, 5%, 1/4W, Carbon
R705	ES14X70	100 ohm, 5%, 1/4W, Carbon

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC701	EP84X227	Infrared Preamplifier

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y701	EP16X157	Photo, Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L701	EP36X447	COIL-Tuning

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL245	EP8X67	CONNECTOR-4 Pos.
	EP2X552	LENS-Remote Control

Electronic Tuning System

**TROUBLESHOOTING
SECTION**

INDEX TO ELECTRONIC TUNING SYSTEM TROUBLESHOOTING CHARTS

USE THE CHART FOR THE SYMPTOM THAT MOST CLOSELY
APPROXIMATES THE CONDITION OF THE RECEIVER UNDER REPAIR.

<u>SYMPTOM</u>	<u>CHART</u>
● POWER SUPPLIES	I
● TROUBLESHOOTING ORDER	II
● CATEGORIZED SYMPTOMS	III
KEYBOARD INOPERATIVE/HAS RASTER	1.
NO REMOTE CONTROL/KEYBOARD OK	2.
DARK RASTER/CHANNEL DISPLAY OK	3.
SNOWY RASTER	4.
NO CHANNEL/NO KEYBOARD/NO REMOTE	5.
NO LAST OR FAVORITE CHANNEL MEMORY	6.
CHANNEL DISPLAY OK/CHANNELS OFF FREQUENCY	7.
NO PICTURE/CHANNEL DISPLAY INCORRECT	8.
PICTURE OK/CHANNEL DISPLAY INCORRECT	9.
NO PICTURE/CHANNEL DISPLAY OK	10.
UHF/VHF TUNER CHECK	

112 UHF/VHF TUNER BANDSWITCHING VOLTAGES AND CABLE FREQUENCIES CHART

	LO-VHF (CHANNEL 2-6) CABLE 24-68	HI-VHF 7-13) & CABLE MIDBAND A-2, A-1, (A-1) CH. 60-61, (14-22)	CABLE SUPERBAND CH. 23-36 (J-W) CABLE HYPERBAND CH. 37-41	UHF (CHANNEL 14-83)
RECEIVING BAND	BAND I	BAND II	BAND III	BAND IV
SV1 +/-10%	-15V	-15V	+9V	-15V
SV2 +/-10%	-15V	+9V	+9V	+9V
VHF RF & OSC B+ +/-10%	+12V	+12V	+12V	0V
MIXER B+ +/-10%	+12V	+12V	+12V	+12V
UHF B+ +/-10%	0V	0V	0V	+12V
AGC 0 MAX GAIN	0.0V	0.0V	0.0V	0.0V
TUNING VOLTAGE	0-30	0-30	0-30	0-30

112 CABLE CHANNEL CHART						
FREQ SPECTRUM	54MHz TO 88MHz	108MHz TO 174MHz	174MHz TO 216MHz	216MHz TO 300MHz	300MHz TO 330MHz	470MHz TO 890MHz
CHANNEL BAND	LO VHF 2-6	MID BAND CABLE (A-2)-I	HI VHF 7-13	SUPER BAND CABLE J-W	HYPERBAND CABLE AA-EE	UHF 14-83
TV CHANNEL NUMBER INDICATOR	2-6	60 (A-2) 61 (A-1) 14-22 (A-I)	7-13	23-36	37-41	14-83

130 UHF/VHF TUNER BANDSWITCHING VOLTAGES AND CABLE FREQUENCIES CHART

	LO VHF (CHANNEL 2-6) CABLE 6A-6B	HI VHF (CHANNEL 7-13) & CABLE MICROBAND A-2 A-1 (A 2) CH 60-61 (14 22)	CABLE SUPERBAND CH 23-36 (U W) CABLE HYPERBAND CH 37-59	UHF (CHANNEL 14-83)
RECEIVING BAND	BAND I	BAND II	BAND III	BAND IV
SW1 +/-10%	-15V	-15V	+9V	-15V
SW2 +/-10%	-15V	+9V	+9V	+9V
VHF RF & OSC B+ +/-10%	+12V	+12V	+12V	0V
MIXER B+ +/-10%	+12V	+12V	+12V	+12V
UHF B+ +/-10%	0V	0V	0V	+12V
AGC & MAX GAIN	0.0V	0.0V	0.0V	0.0V
TUNING VOLTAGE	0-30	0-30	0-30	0-30

130 CABLE CHANNEL CHART

FREQ SPECTRUM	54MHz TO 88MHz	108MHz TO 174MHz	174MHz TO 216MHz	216MHz TO 300MHz	300MHz TO 438MHz	470MHz TO 890MHz
CHANNEL BAND	LO VHF 2-6	MID BAND CABLE (A-2)—I	HI VHF 7-13	SUPER BAND CABLE J-W	HYPERBAND CABLE AA-WW	UHF 14-83
TV CHANNEL NUMBER INDICATOR	2-6	60 (A-2) 61 (A-1) 14-22 (A-I)	7-13	23-36	37-59	14-83

25 PC CHASSIS

COMPONENT LAYOUTS

SCHEMATIC DIAGRAMS

AND REPLACEMENT PARTS LISTS

SERVICE INFORMATION

25PC CHASSIS CIRCUIT BOARDS/MODULES/SCHEMATICS INDEX

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RGB CIRCUIT BOARD ASM. (CONT.)

R428	ES14X70	100 ohm, 5%, 1/8W, Carbon
R430	Common	1 meg ohm, 5%, 1/4W, Carbon
R434	Common	200 ohm, 5%, 1/8W, Carbon
R436	Common	200 ohm, 5%, 1/8W, Carbon
R438	Common	200 ohm, 5%, 1/8W, Carbon
R454	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R456	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R458	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R464	ES14X64	2K ohm, 5%, 1/8W, Carbon
R466	ES14X64	2K ohm, 5%, 1/8W, Carbon
R468	ES14X64	2K ohm, 5%, 1/8W, Carbon
* R484	EP14X231	12K ohm, 5%, 2W, Metal Oxide
* R486	EP14X231	12K ohm, 5%, 2W, Metal Oxide
* R488	EP14X231	12K ohm, 5%, 2W, Metal Oxide

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R444	EP49X469	150 ohm, 20%
R446	EP49X469	150 ohm, 20%
R448	EP49X469	150 ohm, 20%
R474	EP49X470	5K ohm, 20%
R476	EP49X470	5K ohm, 20%
R478	EP49X470	5K ohm, 20%

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q404	EP15X61	NPN, Silicon
Q406	EP15X61	NPN, Silicon
Q408	EP15X61	NPN, Silicon

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y402	EP16X58	Zener

COIL

REF. NO.	PART NO.	DESCRIPTION
L403	ES36X82	CHOKE-220uh, 10%,

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL4	EP8X91	CONNECTOR-8 Pos.
RL5	EP8X68	CONNECTOR-2 Pos.
	EP34X67	SOCKET-CRT

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Y1903	EP57X5	Rectifier, Silicon
Y1905	EP57X5	Rectifier, Silicon
Y1907	EP57X5	Rectifier, Silicon

COILS

REF. NO.	PART NO.	DESCRIPTION
* L1901	EP36X449	COIL-Width
L1903	EP36X450	CHOKE-2.5uh, 10%
* L1905	EP36X432	COIL-Linearity
* T1901	EP36X448	COIL-Pincushion Asm

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL12	EP8X30	CONNECTOR-1 Pin
FB1901	EP12X2	FERRITE-Bead
FB1903	EP12X2	FERRITE-Bead

25" PC

HORIZ. HEAT SINK BOARD ASM

EP93X349

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
* C1901	ES18X13	330pf, 20%, 2KV, Cer. Disc
* C1903	EP25X158	.0175uf, 5%, 1.5KV, Polypropylene
* C1904	EP25X159	.15uf, 10%, 200V, Polypropylene
* C1905	EP25X91	.47uf, 10%, 400V, Polyester
C1907	EP18X207	330pf, 20%, 500V, Cer. Disc
C1909	EP25X151	2700pf, 10%, 100V, Mylar
C1915	EP25X151	2700pf, 10%, 200V, Mylar

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R1901	EP14X297	170 ohm, 10%, 7W, Wirewound
R1907	EP14X187	100 ohm, 5%, 1/2W, Carbon
R1911	EP14X128	330 ohm, 5%, 1/2W, Carbon

25PC CHASSIS

25 PC

VIR CIRCUIT BOARD ASM

EP93X390

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C10	EP25X87	.047uf, 20%, 50V, Polyester
C11	EP18X204	470pf, 10%, 50V, Cer. Disc
C12	EP25X87	.047uf, 20%, 50V, Polyester
C13	EP18X198	2200pf, 30%, 25V, Cer. Disc
C14	EP31X35	10uf, 10%, 16V, Elect.
C15	EP25X87	.047uf, 20%, 50V, Polyester
C16	EP25X87	.047uf, 20%, 50V, Polyester
C17	EP25X87	.047uf, 20%, 50V, Polyester
C18	EP18X204	470pf, 10%, 50V, Cer. Disc
C19	EP18X194	100pf, 10%, 50V, SHIK, Cer. Disc
C21	EP31X45	47uf, 10%, 25V, Elect.
C22	EP18X197	1000pf, 20%, 50V, Cer. Disc
C23	EP25X87	.047uf, 20%, 50V, Polyester
C24	EP31X141	220uf, 10%, 16V, Elect.
C25	EP18X169	1000pf, 30%, 25V, Cer. Disc
C28	EP31X45	47uf, 10%, 16V, Elect.
C27	EP25X87	.047uf, 20%, 50V, Polyester
C29	EP25X87	.047uf, 20%, 50V, Polyester
C30	EP18X194	100pf, 10%, 50V, SHIK, Cer. Disc
C31	EP25X87	.047uf, 20%, 50V, Polyester
C32	EP25X87	.047uf, 20%, 50V, Polyester
C33	EP31X55	100uf, 10%, 10V, Elect.
C34	EP31X45	47uf, 10%, 16V, Elect.
C35	EP25X87	.047uf, 20%, 50V, Polyester
C36	EP18X197	1000pf, 20%, 50V, Cer. Disc
C37	EP25X87	.047uf, 20%, 50V, Polyester
C38	EP18X194	100pf, 10%, 50V, SHIK, Cer. Disc
C39	EP18X169	1000pf, 30%, 25V, Cer. Disc
C40	EP18X204	470pf, 10%, 50V, Cer. Disc
C51	EP18X214	.022uf, 20%, 500V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R10	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R11	ES14X71	1K ohm, 5%, 1/8W, Carbon
R12	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R13	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R14	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
R16	ES14X71	1K ohm, 5%, 1/8W, Carbon
R17	ES14X71	1K ohm, 5%, 1/8W, Carbon
R18	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R19	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
R20	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R21	EP14X125	47K ohm, 5%, 1/8W, Carbon
R22	EP14X125	47K ohm, 5%, 1/8W, Carbon
R23	ES14X71	1K ohm, 5%, 1/8W, Carbon
R24	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R25	ES14X71	1K ohm, 5%, 1/8W, Carbon
R26	EP14X125	47K ohm, 5%, 1/8W, Carbon
R27	Common	220 ohm, 5%, 1/4W, Carbon
R28	EP14X125	47K ohm, 5%, 1/8W, Carbon
R29	EP14X103	10K ohm, 5%, 1/8W, Carbon
R30	EP14X288	18K ohm, 5%, 1/8W, Carbon
R31	EP14X103	10K ohm, 5%, 1/8W, Carbon
R32	EP14X140	330K ohm, 5%, 1/8W, Carbon
R33	Common	750K ohm, 5%, 1/8W, Carbon
R34	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R35	Common	3.6K ohm, 5%, 1/4W, Carbon
R36	Common	9.1K ohm, 5%, 1/8W, Carbon
R37	ES14X71	1K ohm, 5%, 1/8W, Carbon
R40	EP14X125	47K ohm, 5%, 1/8W, Carbon
R41	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R42	EP14X289	430 ohm, 5%, 1/4W, Carbon
R43	EP14X187	100 ohm, 5%, 1/8W, Carbon
R44	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R45	EP14X285	15K ohm, 5%, 1/8W, Carbon
R46	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
R47	EP14X103	10K ohm, 5%, 1/8W, Carbon
R48	ES14X58	470 ohm, 5%, 1/8W, Carbon
R49	ES14X71	1K ohm, 5%, 1/8W, Carbon
R50	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R51	EP14X288	30K ohm, 5%, 1/8W, Carbon
R52	EP14X136	33K ohm, 5%, 1/8W, Carbon

R53	Common	10 ohm, 5%, 1/8W, Carbon
R55	ES14X71	1K ohm, 5%, 1/8W, Carbon
R56	ES14X71	1K ohm, 5%, 1/8W, Carbon
R57	EP14X179	2K ohm, 5%, 1/4W, Carbon

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
VIC10	EP84X60	Mono

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q10	EP15X88	NPN, Silicon
Q11	EP15X88	NPN, Silicon
Q12	EP15X88	NPN, Silicon
Q13	EP15X88	NPN, Silicon
Q14	EP15X88	NPN, Silicon
Q15	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y10	EU16X11	Silicon
Y11	EU16X11	Silicon
Y12	EU16X11	Silicon
Y13	EU16X11	Silicon
Y14	EU16X11	Silicon
Y15	EP16X19	Zener

COIL

REF. NO.	PART NO.	DESCRIPTION
L50	EP36X33	CHOKE-56uh, 5%

LDR BOARD ASM

EP41X120

CAPACITOR

REF. NO.	PART NO.	DESCRIPTION
C1918	EP31X88	47uf, 10%, 16V, Elect.

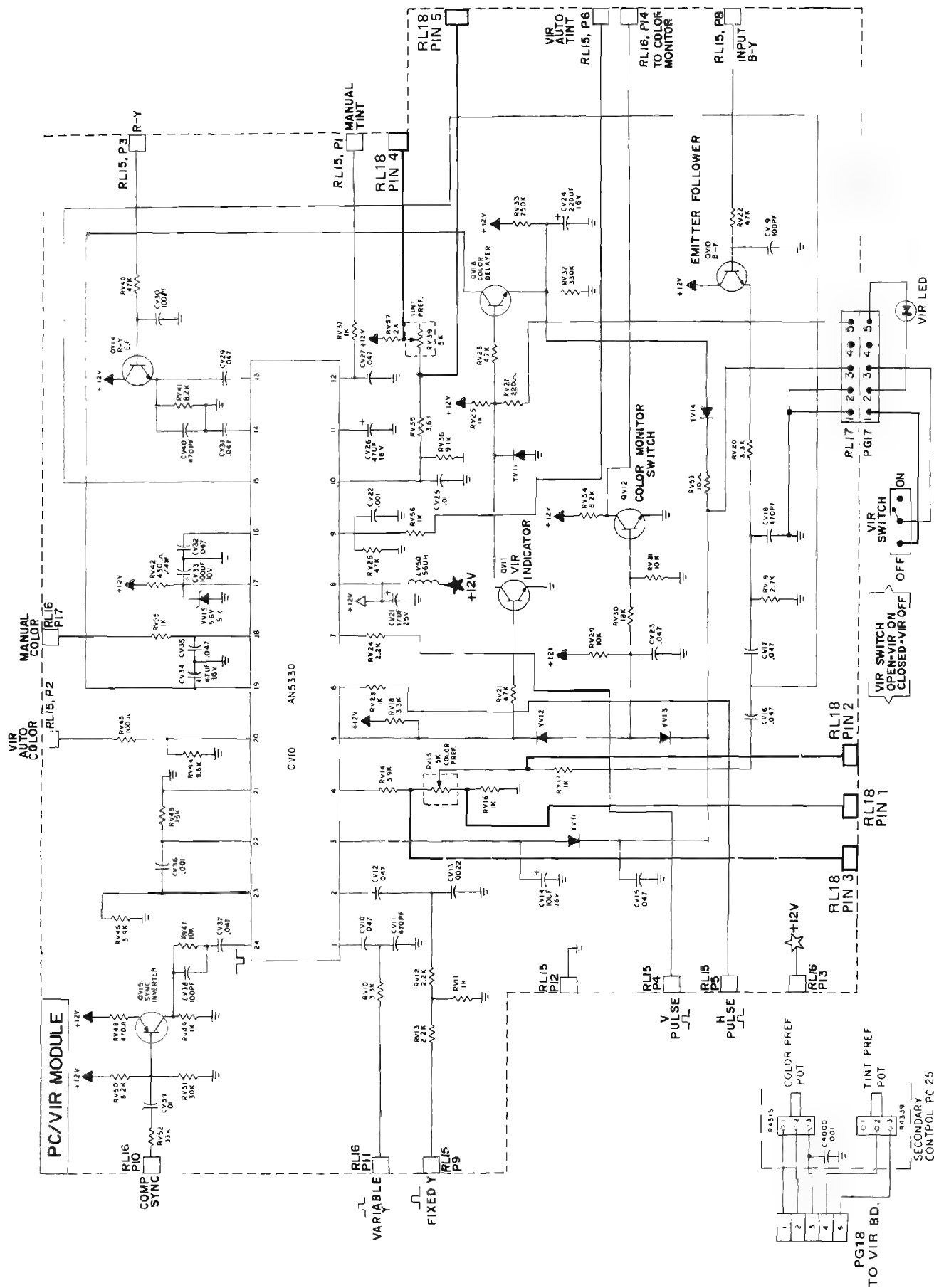
RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R1902	Common	4.3K ohm, 5%, 1/8W, Carbon
R1904	Common	3K ohm, 5%, 1/8W, Carbon
R1906	EP14X284	12K ohm, 5%, 1/8W, Carbon
R1910	ES14X59	560 ohm, 5%, 1/8W, Carbon
R1911	EP14X324	Light Dep Resistor

MISCELLANEOUS

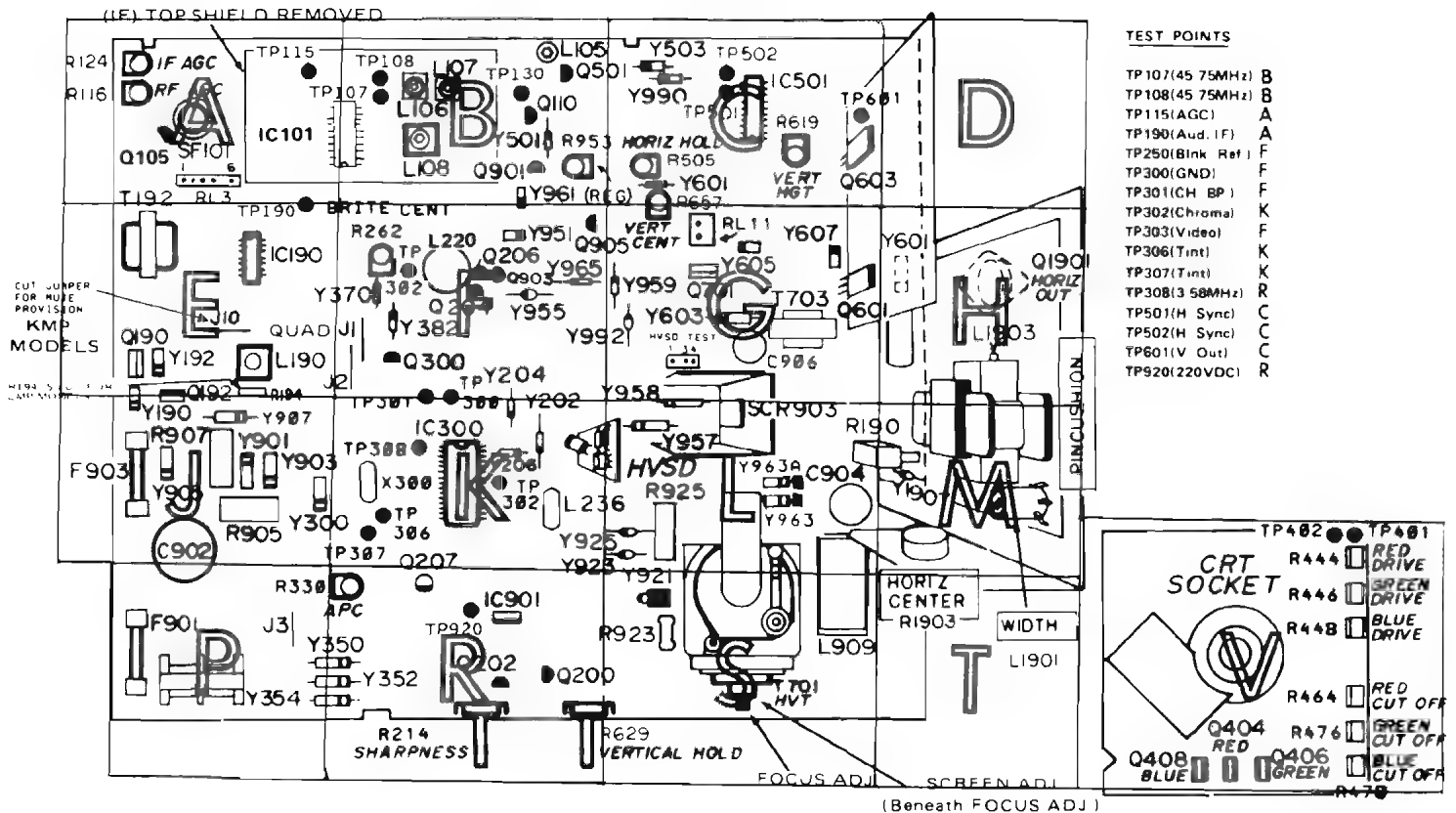
REF. NO.	PART NO.	DESCRIPTION
PG28	EP8X42	CONNECTOR-4 Pins

25PC/VIR MODULE (EP93X390) SCHEMATIC DIAGRAM



25PC/VIR MODULE SCHEMATIC DIAGRAM

PC CHASSIS LAYOUT



25PC-B/C/D PARTS LIST (CONTINUED)

Q601	EP15X105	Vertical Output, NPN, Silicon
Q603	EP15X105	Vertical Driver, NPN, Silicon
Q701	EP15X19	Horizontal Driver, NPN, Silicon
Q901	EP15X88	Error Amp, NPN, Silicon
Q903	EP15X91	Regulator Control, NPN, Silicon
Q905	EP15X57	Regulator Trigger, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y190	EU16X11	Silicon
Y192	EU16X11	Silicon(PC-B/C)
Y194	EP16X58	17 Volt, Zener
Y202	ES16X27	Silicon
Y204	ES16X27	Silicon
Y206	ES16X27	Silicon
Y300	EP16X147	Schockley
Y350	EP16X58	17 Volt, Zener
Y352	EP16X58	17 Volt, Zener
Y354	EP16X58	17 Volt, Zener
Y501	ES16X27	Silicon(PC-B Only)
Y503	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP57X4	Rectifier, Silicon
Y605	EP57X4	Rectifier, Silicon
Y607	EP57X4	Rectifier, Silicon
Y609	EP57X4	Rectifier, Silicon
Y901	EP57X4	Rectifier, Silicon
Y903	EP57X4	Rectifier, Silicon
Y905	EP57X4	Rectifier, Silicon
Y907	EP57X4	Rectifier, Silicon
Y921	EP16X149	Rectifier, Fast Recovery
Y923	EP16X154	Rectifier, Silicon
Y925	EP57X5	Rectifier, Silicon
Y931	EU16X11	Silicon
Y932	EU16X11	Silicon
Y939	EP57X4	Rectifier, Silicon(PC-D Only)
Y951	EP16X19	5.6 Volt, Zener
Y954	ES16X27	Silicon
Y955	EP57X5	Rectifier, Silicon
* Y957	EP16X148	36 Volt, Zener
* Y958	EP16X148	36 Volt, Zener
Y959	ES16X27	Silicon
Y961	ES16X27	Silicon
Y963A	EP16X149	Rectifier, Silicon
Y965	EU16X11	Silicon
Y990	ES16X27	Silicon
Y991	EP57X4	Silicon
Y992	EP57X5	Rectifier, Silicon

COILS AND TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
CF100	EP41X126	FILTER-Ceramic, 4.5mhz, Audio
CF212	EP41X133	TRAP-Ceramic, 3.58mhz
L101	EP36X442	CHOKE-.82uh, 10%
L102	EP36X442	CHOKE-.82uh, 10%
L104	EP36X4	CHOKE-9.2uh
L105	EP36X312	COIL-4.5mc, Trap
L106	EP36X433	COIL-45.75mhz, Molded
L107	EP36X433	COIL-45.75mhz, Molded
L108	EP36X468	COIL-IF & 41.25mhz, Trap
L180	EP36X144	CHOKE-27uh, 5%
L190	EP36X435	COIL-Quad.
L196	ES36X82	CHOKE-220uh, 20%
L200	EP36X314	CHOKE-30uh, 10%
L204	EP36X17	CHOKE-150uh, 10%
L220	EP36X439	COIL-Delay Line
L236	EP36X136	CHOKE-15uh, 10%
L300	EP36X23	CHOKE-12uh, 5%
L320	EP36X33	CHOKE-56uh, 5%
L321	EP36X33	CHOKE-56uh, 5%
L322	EP36X33	CHOKE-56uh, 5%
* L703	EP36X437	CHOKE-Filament, H.V. Tuning

* L901	EP36X440	COIL-Line Choke Filter
L903	EP36X436	COIL-Filament Choke(PC-D Only)
* L909	EP36X441	CHOKE-3mh, Regulator
L921	EP36X477	CHOKE-82uh, 5%(PC-D Only)
L921	EP36X136	CHOKE-15uh, 5%(PC-B/C)
L929	EP36X437	CHOKE-Filament, H.V. Tuning
SF101	EP41X123	WAVE FILTER
T192	EP64X58	TRANSFORMER-Audio Output
* T701	EP77X58	TRANSFORMER-H.V.
* T703	EP64X57	TRANSFORMER-Buffer
X300	EP41X10	CRYSTAL-Quartz

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP60X13	AIR GAP-For H. V. T.
	EP8X36	ANODE-CRT Cap
	EP2X539	BRACKET-HVT Support, Plastic
	EP3X7	CLIP-Fuse, F901/F903 (4 Used)
*	EP66X19	CORD-AC Power Polarized, Wired-In-Type
FB921	EP12X8	FERRITE BEAD
FB963A	EP12X8	FERRITE BEAD
* F901	EP10X19	FUSE-4amp, 250V, Snap-In, Fast Acting
* F903	ET10X42	FUSE-1.5amp, 250V, Snap- In, Fast Acting
	EP3X38	WASHER-Shoulder, SCR903, Q601 Q603

HORIZ. HEAT SINK BOARD ASMEP93X454CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
	C1901	ES18X13 330pf, 20%, 2KV, Cer. Disc
* C1903	EP25X158	.0175uf, 5%, 1.5KV, Polypropylene
* C1904	EP25X159	.15uf, 10%, 200V, Polypropylene
* C1905	EP25X91	.47uf, 10%, 400V, Polyester
C1907	EP18X207	330pf, 20%, 500V, Cer. Disc
C1909	EP25X151	2700pf, 10%, 100V, Mylar
C1915	EP25X151	2700pf, 10%, 200V, Mylar

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
* R1901	EP14X297	170 ohm, 10%, 7W, Wirewound
R1907	EP14X187	100 ohm, 5%, 1/2W, Carbon
R1911	EP14X128	330 ohm, 5%, 1/2W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	Horiz Centering

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	Horiz Output Damper, NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y1903	EP57X5	Rectifier, Silicon
Y1905	EP57X5	Rectifier, Silicon
Y1907	EP57X5	Rectifier, Silicon

PC CHASSIS

25PC-B/C/D PARTS LIST (CONTINUED)

COILS

REF. NO.	PART NO.	DESCRIPTION
* L1901	EP36X449	COIL-Width
L1903	EP36X450	CHOKE-2.5uh, 10%
* L1905	EP36X432	COIL-Linearity
* T1901	EP36X448	COIL-Pincushion Asm

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL12	EP8X30	CONNECTOR-1 Pin
FB1901	EP12X2	FERRITE-Bead
FB1903	EP12X2	FERRITE-Bead
	EP3X52	SPACER-Q1901

RGB CIRCUIT BOARD ASM

EP93X392

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C403	EU22X216	.01uf, 20%, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C406	EP18X270	1000pf, 20%, 50V, HiK, Cer. Disc
C408	EP18X205	560pf, 20%, 50V, HiK, Cer. Disc
C490	EP18X267	4700pf, 20%, 2KV, SHiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R403	EP14X103	10K ohm, 5%, 1/8W, Carbon
R404	EP14X289	430 ohm, 5%, 1/8W, Carbon
R405	ES14X59	560 ohm, 5%, 1/8W, Carbon
R411	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R413	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R414	EP14X128	330 ohm, 5%, 1/8W, Carbon
R415	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R416	EP14X128	330 ohm, 5%, 1/8W, Carbon
R418	EP14X128	330 ohm, 5%, 1/8W, Carbon
R419	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R424	EP14X187	100 ohm, 5%, 1/8W, Carbon
R426	EP14X187	100 ohm, 5%, 1/8W, Carbon
R428	ES14X70	100 ohm, 5%, 1/8W, Carbon
R430	EP14X131	1 meg ohm, 10%, 1/4W, Carbon
R434	EP14X329	200 ohm, 5%, 1/8W, Carbon
R436	EP14X329	200 ohm, 5%, 1/8W, Carbon
R438	EP14X329	200 ohm, 5%, 1/8W, Carbon
R454	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R456	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R458	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R464	Common	3K ohm, 5%, 1/8W, Carbon
R466	Common	3K ohm, 5%, 1/8W, Carbon
R468	Common	3K ohm, 5%, 1/8W, Carbon
* R484	EP14X231	12K ohm, 5%, 2W, Metal Oxide
* R486	EP14X231	12K ohm, 5%, 2W, Metal Oxide
* R488	EP14X231	12K ohm, 5%, 2W, Metal Oxide

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R444	EP49X469	Red Drive, 150 ohm, 20%
R446	EP49X469	Green Drive, 150 ohm, 20%
R448	EP49X469	Blue Drive, 150 ohm, 20%
R474	EP49X470	Red Cut Off, 5K ohm, 20%
R476	EP49X470	Green Cut Off, 5K ohm, 20%
R478	EP49X470	Blue Cut Off, 5K ohm, 20%

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q404	EP15X61	Red Amp, NPN, Silicon
Q406	EP15X61	Green Amp, NPN, Silicon
Q408	EP15X61	Blue Amp, NPN, Silicon

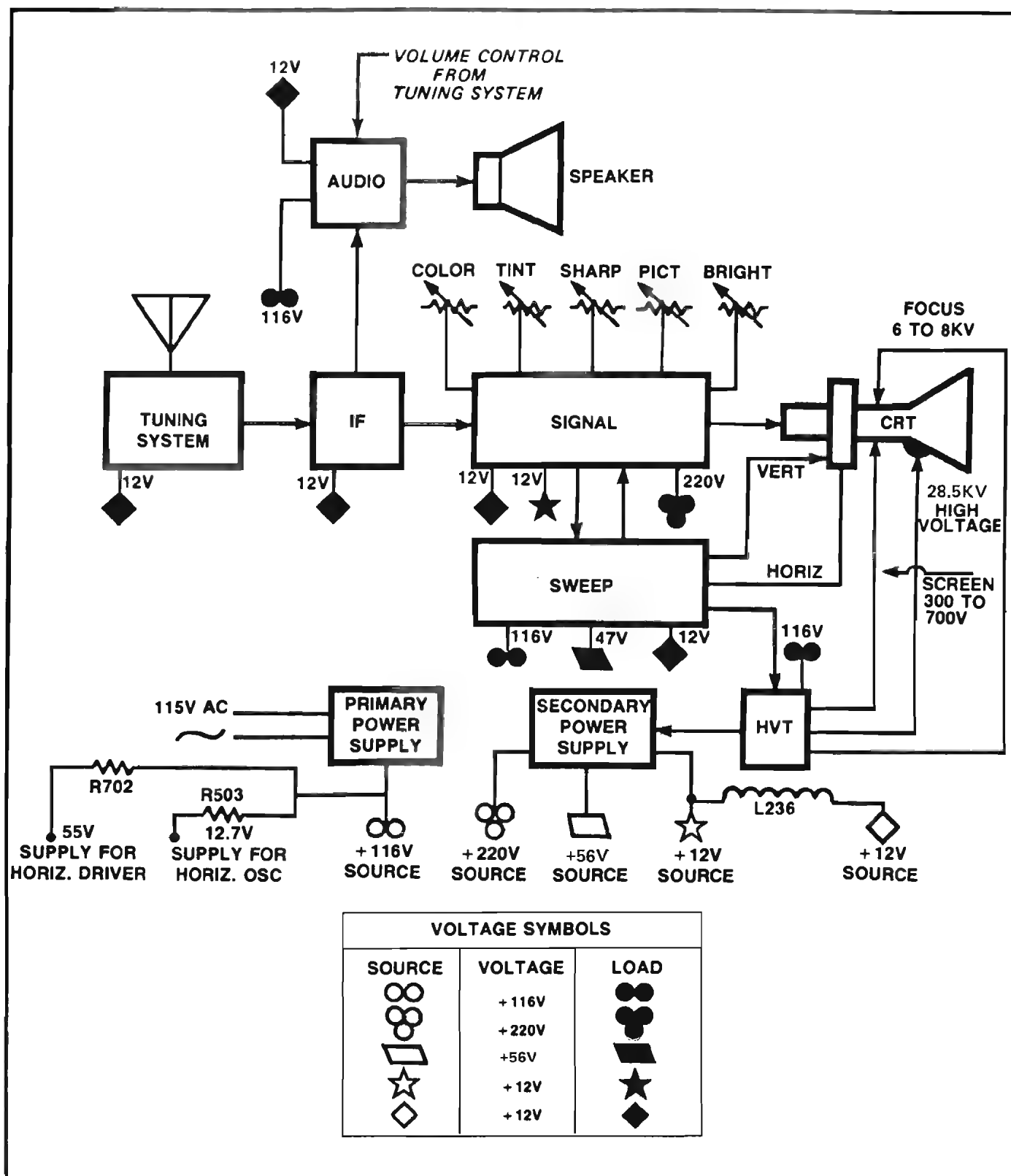
COIL

REF. NO.	PART NO.	DESCRIPTION
L403	ES36X82	CHOKE-220uh, 10%,

MISCELLANEOUS

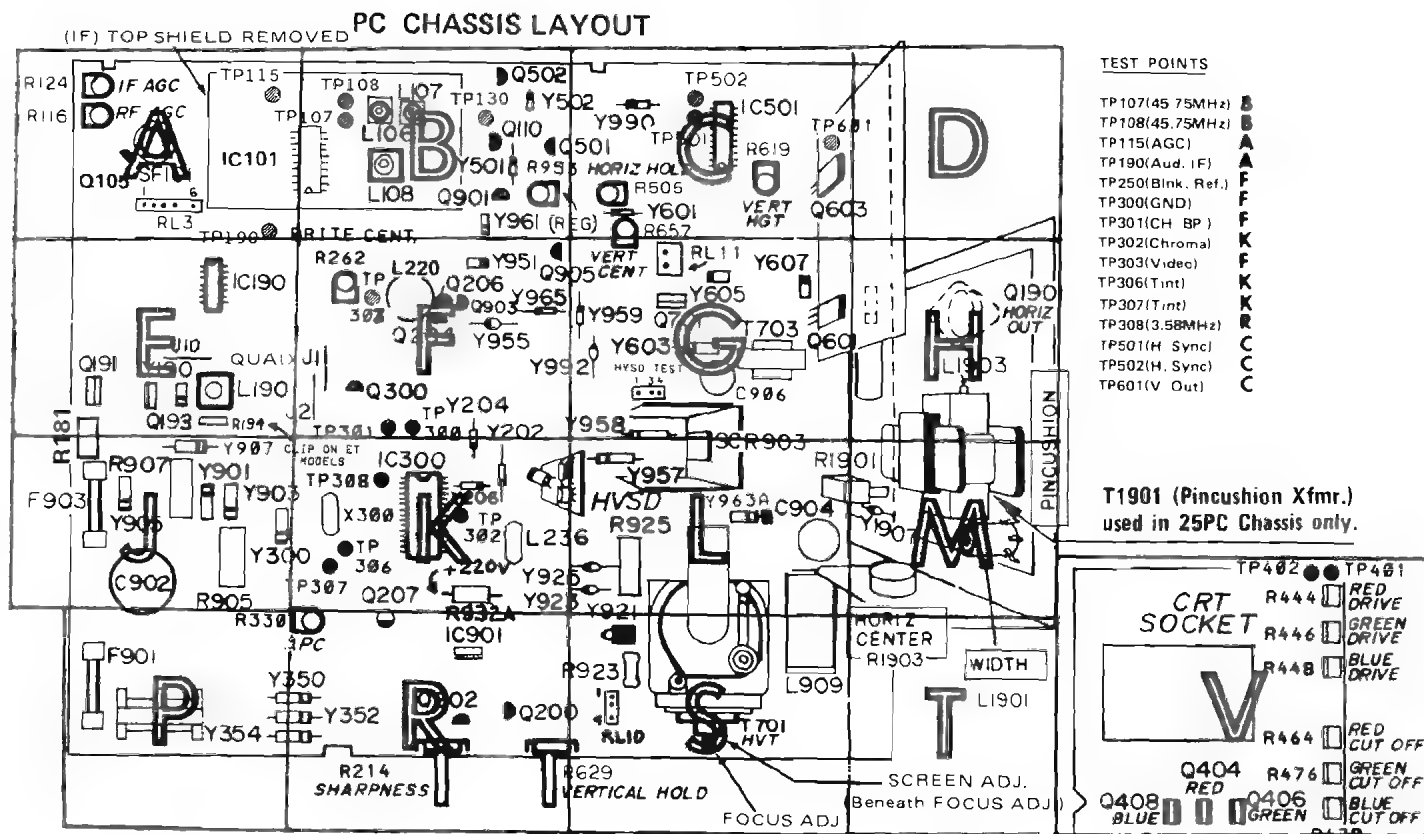
REF. NO.	PART NO.	DESCRIPTION
RL4	EP8X91	CONNECTOR-8 Pos.
RL5	EP8X68	CONNECTOR-2 Pos.
	EP34X69	SOCKET-CRT

PC CHASSIS BLOCK DIAGRAM



PC CHASSIS LAYOUT

BOXED RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR ADJUSTMENTS, COMPONENTS, AND TEST POINTS LOCATION (see PC Chassis Layout below).



25" PC-E/F/H Parts List (Cont.)

R187	ES14X71	1K ohm, 5%, 1/4W, Carbon	R509	EP14X119	68K ohm, 5%, 1/4W, Carbon
R188	EP14X434	39 ohm, 5%, 1/4W, Carbon	R511	EP14X103	10K ohm, 5%, 1/8W, Carbon
R189	ES14X80	2.2 ohm, 5%, 1/2W, Carbon	R513	EP14X103	10K ohm, 5%, 1/4W, Carbon
R190	ES14X80	2.2 ohm, 5%, 1/2W, Carbon	R516	EP14X453	150K ohm, 5%, 1/8W, Carbon
R191	EP14X447	39K ohm, 5%, 1/4W, Carbon	R517	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
★R192	EP14X380	27K ohm, 5%, 1/4W, Carbon	R518	EP14X425	240K ohm, 5%, 1/4W, Carbon
R193	EP14X421	4.3K ohm, 5%, 1/4W, Carbon	R519	EP14X422	62K ohm, 5%, 1/8W, Carbon
R194	EP14X103	10K ohm, 5%, 1/4W, Carbon	R521	ES14X56	33 ohm, 5%, 1/4W, Carbon
R195	EP14X400	2.7K ohm, 5%, 1/4W, Carbon	R523	ES14X59	560 ohm, 5%, 1/4W, Carbon
R196	EP14X105	100K ohm, 5%, 1/4W, Carbon	R525	EP14X131	47K ohm, 5%, 1/4W, Carbon
R197	EP14X400	2.7K ohm, 5%, 1/4W, Carbon	R527	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R198	EP14X424	8.2K ohm, 5%, 1/4W, Carbon	R528	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R199	EP14X409	10 ohm, 5%, 1/4W, Carbon	R529	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R200	ES14X69	56 ohm, 5%, 1/4W, Carbon	R531	EP14X409	10 ohm, 5%, 1/4W, Carbon
R202	EP14X285	20K ohm, 5%, 1/8W, Carbon	R532	ES14X61	820 ohm, 5%, 1/4W, Carbon
R204	EP14X444	1.2K ohm, 5%, 1/8W, Carbon	R535	EP14X386	51K ohm, 5%, 1/4W, Carbon
R206	EP14X243	2.2K ohm, 5%, 1/8W, Carbon	R537	EP14X131	47K ohm, 5%, 1/4W, Carbon
R208	EP14X303	22K ohm, 5%, 1/8W, Carbon	R601	EP14X398	15K ohm, 5%, 1/4W, Carbon
R209	EP14X428	82 ohm, 5%, 1/4W, Carbon	R603	ES14X51	47 ohm, 5%, 1/4W, Carbon
R210	EP14X220	180 ohm, 5%, 1/4W, Carbon	R605	EP14X103	10K ohm, 5%, 1/4W, Carbon
R211	EP14X421	4.3K ohm, 5%, 1/8W, Carbon	R609	EP14X413	12K ohm, 5%, 1/4W, Carbon
R212	EP14X284	12K ohm, 5%, 1/8W, Carbon	R611	EP14X128	330 ohm, 5%, 1/4W, Carbon
R213	EP14X140	330K ohm, 5%, 1/8W, Carbon	R613	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R216	EP14X420	270 ohm, 5%, 1/8W, Carbon	R615	EP14X285	20K ohm, 5%, 1/4W, Carbon
R217	ES14X61	820 ohm, 5%, 1/8W, Carbon	R617	EP14X378	120 ohm, 5%, 1/4W, Carbon
R218	EP14X289	430 ohm, 5%, 1/8W, Carbon	R621	EP14X388	6.8 ohm, 5%, 1W, Metal Oxide
R220	EP14X283	680 ohm, 5%, 1/8W, Carbon	R623	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R221	EP14X293	680K ohm, 5%, 1/4W, Carbon	R625	EP14X220	180 ohm, 5%, 1/4W, Carbon
R222	EP14X415	82K ohm, 5%, 1/4W, Carbon	R627	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R224	EP14X103	10K ohm, 5%, 1/8W, Carbon	R631	EP14X456	6.8K ohm, 5%, 1/4W, Carbon
R226	ES14X59	560 ohm, 5%, 1/4W, Carbon	R633	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R228	ES14X65	4.7K ohm, 5%, 1/4W, Carbon	R635	EP14X220	180 ohm, 5%, 1/8W, Carbon
R230	ES14X71	1K ohm, 5%, 1/4W, Carbon	R637	ES14X70	100 ohm, 5%, 1/4W, Carbon
R234	EP14X414	18K ohm, 5%, 1/4W, Carbon	R639	ES14X71	1K ohm, 5%, 1/4W, Carbon
R240	ES14X71	1K ohm, 5%, 1/4W, Carbon	R641	EP14X188	15 ohm, 5%, 1/2W, Carbon
R250	ES14X62	1.5K ohm, 5%, 1/4W, Carbon	★R643	EP14X102	560 ohm, 5%, 1W, Metal Oxide
R252	EP14X303	22K ohm, 5%, 1/8W, Carbon	★R645	EP14X102	560 ohm, 5%, 1W, Metal Oxide
R254	EP14X105	100K ohm, 5%, 1/8W, Carbon	★R647	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R256	EP14X411	2.4K ohm, 5%, 1/4W, Carbon	R649	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R258	EP14X398	15K ohm, 5%, 1/4W, Carbon	R651	EP14X48	10 ohm, 5%, 1/2W, Carbon
R270	EP14X284	10 ohm, 5%, 1/8W, Carbon	★R653	EP14X346	180 ohm, 5%, 2W, Metal Oxide
R300	EP14X426	36K ohm, 5%, 1/4W, Carbon	R655	EP14X130	2.7K ohm, 5%, 1/2W, Carbon
R302	EP14X370	9.1K ohm, 5%, 1/4W, Carbon	★R702	EP14X328	1.2K ohm, 5%, 3W, Flame Proof
R310	EP14X133	470K ohm, 5%, 1/8W, Carbon	★R703	EP14X348	.47 ohm, 5%, 2W, Metal Oxide
R312	EP14X400	2.7K ohm, 5%, 1/4W, Carbon	★R707	EP14X62	1.5K ohm, 5%, 2W, Metal Oxide
R316	EP14X128	330 ohm, 5%, 1/4W, Carbon	★R900	EP14X106	1 meg ohm, 5%, 1/2W, Carbon
R318	EP14X447	39K ohm, 5%, 1/4W, Carbon	★R901	EP14X472	Degaussing
R320	EP14X444	1.2K ohm, 5%, 1/8W, Carbon	R903	EP14X105	100K ohm, 5%, 1/2W, Carbon
R322	ES14X58	470 ohm, 5%, 1/4W, Carbon	★R905	EP14X317	1.5 ohm, 10%, 5W, Wirewound
R326	ES14X71	1K ohm, 5%, 1/4W, Carbon	★R907	EP14X317	1.5 ohm, 10%, 5W, Wirewound
R328	ES14X71	1K ohm, 5%, 1/4W, Carbon	★R921	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R336	EP14X381	3K ohm, 5%, 1/4W, Carbon	R923	ES14X79	1 ohm, 5%, 1/2W, Flame Proof
R338	EP14X105	100K ohm, 5%, 1/4W, Carbon	★R925	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R350	EP14X436	3.6K ohm, 5%, 1/4W, Carbon	★R927	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R352	EP14X436	3.6K ohm, 5%, 1/4W, Carbon	R929	EP14X266	.39 ohm, 5%, 1W, Metal Oxide
R354	EP14X128	330 ohm, 5%, 1/4W, Carbon	R932	EP14X378	120 ohm, 5%, 1/4W, Carbon
R355	EP14X128	330 ohm, 5%, 1/4W, Carbon	R932A	EP14X378	120 ohm, 5%, 1/4W, Carbon
R356	EP14X436	3.6K ohm, 5%, 1/4W, Carbon	R933	EP14X403	220K ohm, 5%, 1/2W, Carbon
R358	EP14X128	330 ohm, 5%, 1/4W, Carbon	★R935	ES14X62	1.5K ohm, 5%, 1/2W, Carbon
R370	EP14X284	1K ohm, 5%, 1/8W, Carbon	★R936	EU13X4	1K ohm, 5%, 1/2W, Carbon
R372	EP14X402	300 ohm, 5%, 1/4W, Carbon	★R937	EP14X287	4.7 ohm, 5%, 1W, Metal Oxide
R380	ES14X65	4.7K ohm, 5%, 1/4W, Carbon	R939	EP14X187	100 ohm, 5%, 1/2W, Carbon
R381	EP14X180	5.6K ohm, 5%, 1/8W, Carbon	★R941	EP14X54	18 ohm, 5%, 2W, Metal Oxide
R389	EP14X382	820K ohm, 10%, 1/4W, Carbon	R951	EP14X320	68K ohm, 2%, 1W, Metal Oxide
R391	EP14X418	5.1K ohm, 5%, 1/4W, Carbon	R952	EP14X457	1.8 meg, ohm, 5%, 1/4W, Carbon
R503	EP14X323	6.8K ohm, 5%, 3W, Flame Proof	R954	EP14X105	100K ohm, 5%, 1/4W, Carbon
R506	EP14X418	5.1K ohm, 5%, 1/4W, Carbon	R955	EP14X252	3.9K ohm, 2%, 1/8W, Carbon
R507	EP14X376	11K ohm, 5%, 1/4W, Carbon	R957	EP14X284	1K ohm, 5%, 1/8W, Carbon
R508	EP14X188	15 ohm, 5%, 1/4W, Carbon	R959	EP14X284	1K ohm, 5%, 1/8W, Carbon

(CONTINUED)

PC CHASSIS

25 PC-E/F/H Parts List (Cont.)

R961	ES14X71	1K ohm, 5%, 1/4W, Carbon
R963	EP14X318	220 ohm, 5%, 1/4W, Carbon
R965	EP14X394	6.2K ohm, 5%, 1/8W, Carbon
R969	ES14X56	33 ohm, 5%, 1/2W, Carbon
R971	EP14X128	330 ohm, 5%, 1/2W, Carbon
R973	ES14X58	470 ohm, 5%, 1/2W, Carbon
★ R975	EP14X275	1K ohm, 10%, 3W, Wirewound
R981	EP14X258	3 ohm, 10%, 7W, Wirewound
★ R983	EP14X368	1.6K ohm, 5%, 1W, Metal Oxide
R985	EP14X396	240 ohm, 5%, 1/8W, Carbon
R990	EP14X443	110 ohm, 5%, 1/2W, Metal Oxide
R996	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R998	EP14X398	15K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R116	EP49X463	RF/AFC, 5K ohm, 20%
R124	EP49X463	IF/AGC, 5K ohm, 20%
R214	EP49X464	Sharpness, 1K ohm, 20%
R262	EP49X463	Brightness, 5K ohm, 20%
R330	EP49X465	APC, 50K ohm, 20%
R505	EP49X463	Horiz. Hold, 5K ohm, 20%
R619	EP49X466	Vert. Height, 250 ohm, 20%
R629	EP49X467	Vert. Hold, 10K ohm, 20%
R657	EP49X465	Vert. Centering, 50K ohm, 20%
R953	EP49X468	Reg., 1K ohm, 20%

INTERGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
	EP62X167	HVSD-Thick Film
IC101	EP84X213	VIF/Det/AFC
IC190	EP84X216	IF/Sound
IC300	EP84X221	Chroma/Video
IC501	EP84X215	Sync. Sep.
IC901	EP84X217	12V, 3 Ter. Regulator

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
SCR903	EP15X217	SCR Regulator, PNP
Q105	EP15X104	Pre Amp, HF, BiPolar
Q110	EP15X87	Video Emitter Follower NPN, Silicon
Q188	EP15X88	NPN, Silicon
Q191	EP15X228	NPN, Silicon
Q193	EP15X222	PNP, Silicon
Q200	EP15X88	Regulator, NPN, Silicon
Q202	EP15X48	Beam Limiter, PNP, Silicon
Q204	EP15X88	Video Amp, NPN, Silicon
Q207	EP15X225	Video Amp, PNP, Silicon
Q300	EP15X226	Burst Gate, NPN, Silicon
Q501	EP15X86	NPN, Silicon
Q502	EP15X87	NPN, Silicon
Q601	EP15X105	Vertical Output, NPN, Silicon
Q603	EP15X105	Vertical Driver, NPN, Silicon
Q701	EP15X123	Horizontal Driver, NPN, Silicon
Q901	EP15X88	Error Amp, NPN, Silicon
Q903	EP15X91	Regulator Control, NPN, Silicon
Q905	EP15X225	Regulator Trigger, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y190	ES16X27	Silicon

Y202	ES16X27	Silicon
Y204	ES16X27	Silicon
Y206	ES16X27	Silicon
Y300	EP16X3	GER.
Y350	EP16X58	17 Volt, Zener
Y352	EP16X58	17 Volt, Zener
Y354	EP16X58	17 Volt, Zener
Y502	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP57X4	Rectifier, Silicon
Y605	EP57X4	Rectifier, Silicon
Y607	EP57X4	Rectifier, Silicon
Y609	EP57X4	Rectifier, Silicon
Y901	EP57X4	Rectifier, Silicon
Y903	EP57X4	Rectifier, Silicon
Y905	EP57X4	Rectifier, Silicon
Y907	EP57X4	Rectifier, Silicon
Y921	EP16X149	Rectifier, Fast Recovery
Y923	EP16X154	Rectifier, Silicon
Y925	EP57X5	Rectifier, Silicon
Y931	EU16X11	Silicon
Y932	EU16X11	Silicon
Y939	EP57X4	Rectifier, Silicon
Y951	EP16X19	5.6 Volt, Zener
Y954	ES16X27	Silicon
Y955	EP57X5	Rectifier, Silicon
★ Y957	EP16X148	36 Volt, Zener
★ Y958	EP16X148	36 Volt, Zener
Y959	ES16X27	Silicon
Y961	ES16X27	Silicon
Y963	EP16X149	Rectifier, Silicon
Y965	EU16X11	Silicon
Y990	ES16X27	Silicon
Y991	EP57X4	Rectifier, Silicon
Y992	EP57X5	Rectifier, Silicon

COILS AND TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
CF100	EP41X126	FILTER-Ceramic, 4.5mhz, Audio
CF105	EP41X143	CERAMIC TRAP-4.5mhz
CF212	EP41X153	TRAP-Ceramic, 3.58mhz
L102	EP36X442	CHOKE-.82μh, 10%
L106	EP36X433	COIL-45.75mhz, Molded
L107	EP36X433	COIL-45.75mhz, Molded
L108	EP36X468	COIL-IF & 41.25mhz, Trap
L150	EP36X136	CHOKE-15μh, 5%
L180	EP36X144	CHOKE-27μh, 5%
L190	EP36X435	COIL-Quad.
L200	EP36X314	CHOKE-30μh, 10%
L204	EP36X17	CHOKE-150μh, 10%
L212	EP36X136	CHOKE-15μh, 5%
L220	EP36X459	COIL-Delay Line
L236	EP36X136	CHOKE-15μh, 10%
L300	EP36X23	CHOKE-12μh, 5%
L320	EP36X33	CHOKE-56μh, 5%
L321	EP36X33	CHOKE-56μh, 5%
L322	EP36X33	CHOKE-56μh, 5%
★ L703	EP36X437	CHOKE-Filament, H.V. Tuning
★ L901	EP36X440	COIL-Line Choke Filter
L903	EP36X436	COIL-Filament Choke
★ L909	EP36X441	CHOKE-3mhz, Regulator
L921	EP36X477	CHOKE-82μh, 5%
L929	EP36X437	CHOKE-Filament, H.V. Tuning
SF101	EP41X152	WAVE FILTER
★ T701	EP77X58	TRANSFORMER-H.V.
★ T703	EP64X57	TRANSFORMER-Buffer
X300	EP41X10	CRYSTAL-Quartz

(CONTINUED)

25 PC-E/F/H Parts List (Cont.)

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP60X13	AIR GAP-For H. V. T.
	EP8X36	ANODE-CRT Cap
	EP2X539	BRACKET-HVT Support, Plastic
	EP3X7	CLIP-Fuse, F901/F903 (4 Used)
	★ EP66X19	CORD-AC Power Polarized, Wired-In-Type
FB921	EP12X8	FERRITE BEAD
FB963	EP12X8	FERRITE BEAD
★ F901	EP10X19	FUSE-4amp, 250V, Snap-In, Fast Acting
★ F903	ET10X38	FUSE-1.5amp, 250V, Snap- In, Slow Acting
	EP3X38	WASHER-Shoulder, SCR903, Q601 Q603

RGB CIRCUIT BOARD

EP93X550

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C403	EP18X26	.01uf, +80-20%, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C406	EP18X270	1000pf, 20%, 50V, HiK, Cer. Disc
C408	EP18X205	560pf, 20%, 50V, HiK, Cer. Disc
C410	EP18X74	330pf, 20%, 50V, HiK, Cer. Disc
C490	EP18X267	4700pf, +80-20%, 2KV, SHiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R403	EP14X103	10K ohm, 5%, 1/4W, Carbon
R404	EP14X289	430 ohm, 5%, 1/4W, Carbon
R405	ES14X59	560 oh, 5%, 1/4W, Carbon
★ R411	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
★ R413	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
R414	EP14X128	330 ohm, 5%, 1/4W, Carbon
★ R415	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
R416	EP14X128	330 ohm, 5%, 1/4W, Carbon
R418	EP14X128	330 ohm, 5%, 1/4W, Carbon
★ R419	EP14X38	3.3K ohm, 5%, 1/4W, Carbon
★ R424	ES14X70	100 ohm, 5%, 1/4W, Carbon
★ R426	ES14X70	100 ohm, 5%, 1/4W, Carbon
★ R428	ES14X70	100 ohm, 5%, 1/8W, Carbon
R430	EP14X131	1meg ohm, 10%, 1/4W, Carbon
★ R434	EP14X329	200 ohm, 5%, 1/4W, Carbon
★ R436	EP14X329	200 ohm, 5%, 1/4W, Carbon
★ R438	EP14X318	220 ohm, 5%, 1/8W, Carbon
R454	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R456	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R458	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
★ R464	EP14X381	3K ohm, 5%, 1/4W, Carbon
★ R466	EP14X381	3K ohm, 5%, 1/8W, Carbon
★ R468	EP14X381	3K ohm, 5%, 1/4W, Carbon
★ R484	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★ R486	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★ R488	EP14X231	12K ohm, 5%, 2W, Metal Oxide

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R444	EP49X469	Red Drive, 150 ohm, 20%
R446	EP49X469	Green Drive, 150 ohm, 20%
R448	EP49X469	Blue Drive, 150 ohm, 20%
R474	EP49X470	Red Cut Off, 5K ohm, 20%
R476	EP49X470	Green Cut Off, 5K ohm, 20%
R478	EP49X470	Blue Cut Off, 5K ohm, 20%

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q404	EP15X61	RED DRIVE-NPN, Silicon
Q406	EP15X61	GREEN DRIVE-NPN, Silicon
Q408	EP15X61	BLUE DRIVE-NPN, Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L403	ES36X82	CHOK-220uh, 10%

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL4	EP8X91	CONNECTOR-8 Pos.
★	EP34X69	SOCKET-CRT
	EP2X1	TERMINAL-Speaker Lead Type

HORIZ. HEAT SINK BOARD ASM

EP93X537

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C1901	ES18X13	330pf, 20%, 2KV, Cer. Disc
★ C1903	EP25X158	.0175uf, 5%, 1.5KV, Polypropylene
★ C1904	EP25X159	.15uf, 10%, 200V, Polypropylene
★ C1905	EP25X91	.47uf, 10%, 400V, Polyester
C1907	EP18X217	330pf, 20%, 500V, Cer. Disc
C1909	EP25X151	2700pf, 10%, 100V, Mylar
C1915	EP25X151	2700pf, 10%, 200V, Mylar

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
★ R1901	EP14X297	170 ohm, 10%, 7W, Wirewound
R1907	EP14X187	100 ohm, 5%, 1/2W, Carbon
R1911	EP14X128	330 ohm, 5%, 1/2W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	Horiz Centering, 500 ohm, 10%

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	Horiz Output Damper, NPN, Silicon

(CONTINUED)

PC CHASSIS

25 PC-E/F/H Parts List (Cont.)

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y1903	EP57X5	Rectifier, Silicon
Y1905	EP57X5	Rectifier, Silicon
Y1907	EP57X5	Rectifier, Silicon

COILS

REF. NO.	PART NO.	DESCRIPTION
★ L1901	EP36X449	COIL-Width
L1903	EP36X450	CHOKE-2.5 μ h, 10%
★ L1905	EP36X432	COIL-Linearity
★ T1901	EP36X448	COIL-Pincushion Asm

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EU3X532	CLIP-Ground
RL12	EP8X30	CONNECTOR-1 Pin
FB1901	EP12X2	FERRITE-Bead
FB1903	EP12X2	FERRITE-Bead
	EP3X52	SPACER-Q1901

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

25 PC-J Parts List (Cont.)

R605	EP14X103	10K ohm, 5%, 1/4W, Carbon
R609	EP14X413	12K ohm, 5%, 1/4W, Carbon
R611	EP14X128	330 ohm, 5%, 1/4W, Carbon
R613	EP14X243	2.2K ohm 5%, 1/4W, Carbon
R615	EP14X285	20K ohm, 5%, 1/8W, Carbon
R617	EP14X378	120 ohm, 5%, 1/4W, Carbon
R621	EP14X388	6.8 ohm, 5%, 1W, Metal Oxide
R623	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R625	EP14X220	180 ohm, 5%, 1/4W, Carbon
R627	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R631	EP14X456	6.8K ohm, 5%, 1/8W, Carbon
R633	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R635	EP14X220	180 ohm, 5%, 1/8W, Carbon
R637	ES14X70	100 ohm, 5%, 1/4W, Carbon
R639	ES14X71	1K ohm, 5%, 1/4W, Carbon
R641	EP14X188	15 ohm, 5%, 1/2W, Carbon
★R643	EP14X102	560 ohm, 5%, 1W, Metal Oxide
★R645	EP14X102	560 ohm, 5%, 1W, Metal Oxide
★R647	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R649	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R651	EP14X48	10 ohm, 5%, 1/2W, Carbon
★R653	EP14X346	180 ohm, 5%, 2W, Metal Oxide
R655	EP14X130	2.7K ohm, 5%, 1/2W, Carbon
★R702	EP14X328	1.2K ohm, 5%, 3W, Flame Proof
★R703	EP14X262	.47 ohm, 5%, 2W, Metal Oxide
★R707	EP14X62	1.5K ohm, 5%, 2W, Metal Oxide
★R900	EP14X106	1 meg ohm, 5%, 1/2W, Carbon
★R901	EP14X472	THERMISTOR
R902	EP14X326	VARISTOR
R903	EP14X105	100K ohm, 5%, 1/2W, Carbon
★R905	EP14X317	1.5 ohm, 10%, 5W, Wirewound
★R907	EP14X317	1.5 ohm, 10%, 5W, Wirewound
★R921	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R923	ES14X79	1 ohm, 5%, 1/2W, Flame Proof
★R925	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
★R927	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R929	EP14X266	.39 ohm, 5%, 1W, Metal Oxide
R932	EP14X378	120 ohm, 5%, 1/4W, Carbon
R932A	EP14X378	120 ohm, 5%, 1/4W, Carbon
R933	EP14X403	220K ohm, 5%, 1/2W, Carbon
★R935	ES14X62	1.5K ohm, 5%, 1/2W, Carbon
★R936	EU13X4	1K ohm, 5%, 1/2W, Carbon
★R937	EP14X287	4.7 ohm, 5%, 1W, Metal Oxide
R939	EP14X187	100 ohm, 5%, 1/2W, Carbon
R940	EP14X409	10 ohm, 5%, 1/4W, Carbon
★R941	EP14X54	18 ohm, 5%, 2W, Metal Oxide
R945	EP14X106	1 meg ohm, 5%, 1/4W, Carbon
R951	EP14X320	68K ohm, 2%, 1W, Metal Oxide
R952	EP14X457	1.8 meg, ohm, 5%, 1/4W, Carbon
R954	EP14X105	100K ohm, 5%, 1/4W, Carbon
R955	EP14X252	3.9K ohm, 2%, 1/8W, Carbon
R957	EP14X284	1K ohm, 5%, 1/8W, Carbon
R959	EP14X284	1K ohm, 5%, 1/8W, Carbon
R961	ES14X71	1K ohm, 5%, 1/4W, Carbon
R963	EP14X318	220 ohm, 5%, 1/4W, Carbon
R965	EP14X394	6.2K ohm, 5%, 1/8W, Carbon
R969	ES14X56	33 ohm, 5%, 1/2W, Carbon
R971	EP14X128	330 ohm, 5%, 1/2W, Carbon
R973	ES14X58	470 ohm, 5%, 1/2W, Carbon
★R975	EP14X275	1K ohm, 10%, 3W, Wirewound
R981	EP14X352	3 ohm, 5%, 7W, Wirewound
★R983	EP14X368	1.6K ohm, 5%, 1W, Metal Oxide
R985	EP14X396	240 ohm, 5%, 1/8W, Carbon
R990	EP14X443	110 ohm, 5%, 1/2W, Metal Oxide
R996	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R998	EP14X398	15K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R116	EP49X463	RF/AFC, 5K ohm, 20%
R124	EP49X463	IF/AGC, 5K ohm, 20%
R214	EP49X298	Sharpness, 1K ohm, 20%
R262	EP49X489	Brightness, 10K ohm, 20%
R330	EP49X465	APC, 50K ohm, 20%
R505	EP49X463	Horiz. Hold, 5K ohm, 20%
R619	EP49X466	Vert. Height, 250 ohm, 20%
R629	EP49X467	Vert. Hold, 10K ohm, 20%
R657	EP49X465	Vert. Centering, 50K ohm, 20%
R953	EP49X468	Reg., 1K ohm, 20%

INTERGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
	EP62X167	HVSD-Thick Film
IC101	EP84X213	VIF/Det/AFC
IC190	EP84X216	IF/Sound
IC300	EP84X221	Chroma/Video
IC501	EP84X215	Sync. Sep.
IC901	EP84X217	12V, 3 Ter. Regulator

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
SCR903	EP15X217	SCR Regulator, PNP
Q105	EP15X104	Pre Amp, HF, BiPolar
Q110	EP15X87	Video Emitter Follower NPN, Silicon
Q188	EP15X88	NPN, Silicon
Q191	EP15X228	NPN, Silicon
Q193	EP15X222	PNP, Silicon
Q200	EP15X88	Regulator, NPN, Silicon
Q202	EP15X48	Beam Limiter, PNP, Silicon
Q204	EP15X88	Video Amp, NPN, Silicon
Q207	EP15X225	Video Amp, PNP, Silicon
Q300	EP15X226	Burst Gate, NPN, Silicon
Q501	EP15X86	NPN, Silicon
Q502	EP15X87	NPN, Silicon
Q601	EP15X105	Vertical Output, NPN, Silicon
Q603	EP15X105	Vertical Driver, NPN, Silicon
Q701	EP15X123	Horizontal Driver, NPN, Silicon
Q901	EP15X88	Error Amp, NPN, Silicon
Q903	EP15X91	Regulator Control, NPN, Silicon
Q905	EP15X225	Regulator Trigger, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y190	ES16X27	Silicon
Y202	ES16X27	Silicon
Y204	ES16X27	Silicon
Y206	ES16X27	Silicon
Y300	EP16X3	GER.
Y350	EP16X58	17 Volt, Zener
Y352	EP16X58	17 Volt, Zener
Y354	EP16X58	17 Volt, Zener
Y502	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP57X4	Rectifier, Silicon
Y605	EP57X4	Rectifier, Silicon
Y607	EP57X4	Rectifier, Silicon
Y609	EP57X4	Rectifier, Silicon

(CONTINUED)

PC CHASSIS

25 PC-J Parts List (Cont.)

Y901	EP57X4	Rectifier, Silicon
Y903	EP57X4	Rectifier, Silicon
Y905	EP57X4	Rectifier, Silicon
Y907	EP57X4	Rectifier, Silicon
Y921	EP16X149	Rectifier, Fast Recovery
Y923	EP16X154	Rectifier, Silicon
Y925	EP57X5	Rectifier, Silicon
Y931	EU16X11	Silicon
Y932	EU16X11	Silicon
Y939	EP57X4	Rectifier, Silicon
Y951	EP16X19	5.6 Volt, Zener
Y954	ES16X27	Silicon
Y955	EP57X5	Rectifier, Silicon
★Y957	EP16X148	36 Volt, Zener
★Y958	EP16X148	36 Volt, Zener
Y959	ES16X27	Silicon
Y961	ES16X27	Silicon
Y963	EP16X149	Rectifier, Silicon
Y965	EU16X11	Silicon
Y990	ES16X27	Silicon
Y991	EP57X4	Rectifier, Silicon
Y992	EP57X13	Rectifier, Silicon

COILS AND TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
CF100	EP41X126	FILTER-Ceramic, 4.5mhz, Audio
CF105	EP41X143	CERAMIC TRAP-4.5mhz
CF212	EP41X133	TRAP-Ceramic, 3.58mhz
L102	EP36X442	CHOKE-82μh, 10%
L106	EP36X433	COIL-45.75mhz, Molded
L107	EP36X433	COIL-45.75mhz, Molded
L108	EP36X468	COIL-IF & 41.25mhz, Trap
L150	EP36X142	CHOKE-10μh, 5%
L180	EP36X144	CHOKE-27μh, 5%
L190	EP36X435	COIL-Quad.
L200	EP36X498	COIL-Inductor
L204	EP36X17	CHOKE-150μh, 10%
L212	EP36X136	CHOKE-15μh, 5%
L220	EP36X459	COIL-Delay Line
L236	EP36X136	CHOKE-15μh, 10%
L300	EP36X23	CHOKE-12μh, 5%
L320	EP36X33	CHOKE-56μh, 5%
L321	EP36X33	CHOKE-56μh, 5%
L322	EP36X33	CHOKE-56μh, 5%
★L703	EP36X437	CHOKE-Filament, H.V. Tuning
★L901	EP36X440	COIL-Line Choke Filter
L903	EP36X436	COIL-Filament Choke
★L909	EP36X441	CHOKE-3mh, Regulator
L921	EP36X477	CHOKE-82μh, 5%
L929	EP36X437	CHOKE-Filament, H.V. Tuning
L940	EP36X136	CHOKE-15μh, 10%
SF101	EP41X152	WAVE FILTER
★T701	EP77X58	TRANSFORMER-H.V.
★T703	EP64X57	TRANSFORMER-Buffer
X300	EP41X10	CRYSTAL-Quartz

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP60X13	AIR GAP-For H. V. T.
	EP8X36	ANODE-CRT Cap
	EP2X539	BRACKET-HVT Support, Plastic
	EP3X7	CLIP-Fuse, F901/F903 (4 Used)
	★EP66X19	CORD-AC Power Polarized, Wired-In-Type
FB921	EP12X8	FERRITE BEAD

FB963	EP12X8	FERRITE BEAD
★F901	EP10X19	FUSE-4amp, 250V, Snap-In, Fast Acting
★F903	ET10X38	FUSE-1.5amp, 250V, Snap-In, Slow Acting
	EP3X38	WASHER-Shoulder, SCR903, Q601 Q603

RGB CIRCUIT BOARD

EP93X550

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C403	EP18X26	.01uf, +80-20%, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C406	EP18X270	1000pf, 20%, 50V, HiK, Cer. Disc
C408	EP18X205	560pf, 20%, 50V, HiK, Cer. Disc
C410	EP18X74	330pf, 20%, 50V, HiK, Cer. Disc
C490	EP18X267	4700pf, +80-20%, 2KV, SHiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R403	EP14X103	10K ohm, 5%, 1/4W, Carbon
R404	EP14X289	430 ohm, 5%, 1/4W, Carbon
R405	ES14X59	560 oh, 5%, 1/4W, Carbon
★R411	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
★R413	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
R414	EP14X128	330 ohm, 5%, 1/4W, Carbon
★R415	EP14X38	3.3K ohm, 5%, 1/2W, Carbon
R416	EP14X128	330 ohm, 5%, 1/4W, Carbon
R418	EP14X128	330 ohm, 5%, 1/4W, Carbon
★R419	EP14X38	3.3K ohm, 5%, 1/4W, Carbon
★R424	ES14X70	100 ohm, 5%, 1/4W, Carbon
★R426	ES14X70	100 ohm, 5%, 1/4W, Carbon
★R428	ES14X70	100 ohm, 5%, 1/8W, Carbon
R430	EP14X131	1meg ohm, 10%, 1/4W, Carbon
★R434	EP14X329	200 ohm, 5%, 1/4W, Carbon
★R436	EP14X329	200 ohm, 5%, 1/4W, Carbon
★R438	EP14X318	220 ohm, 5%, 1/8W, Carbon
R454	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R456	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R458	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
★R464	EP14X381	3K ohm, 5%, 1/4W, Carbon
★R466	EP14X381	3K ohm, 5%, 1/8W, Carbon
★R468	EP14X381	3K ohm, 5%, 1/4W, Carbon
★R484	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★R486	EP14X231	12K ohm, 5%, 2W, Metal Oxide
★R488	EP14X231	12K ohm, 5%, 2W, Metal Oxide

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R444	EP49X469	Red Drive, 150 ohm, 20%
R446	EP49X469	Green Drive, 150 ohm, 20%
R448	EP49X469	Blue Drive, 150 ohm, 20%
R474	EP49X470	Red Cut Off, 5K ohm, 20%
R476	EP49X470	Green Cut Off, 5K ohm, 20%
R478	EP49X470	Blue Cut Off, 5K ohm, 20%

(CONTINUED)

25 PC-J Parts List (Cont.)

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q404	EP15X61	RED DRIVE-NPN, Silicon
Q406	EP15X61	GREEN DRIVE-NPN, Silicon
Q408	EP15X61	BLUE DRIVE-NPN, Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L403	ES36X82	CHOKE-220uh, 10%

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL4	EP8X91	CONNECTOR-8 Pos.
★	EP34X69	SOCKET-CRT
	EP2X1	TERMINAL-Speaker Lead Type

HORIZ. HEAT SINK BOARD ASM

EP93X537

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C1901	ES18X13	330pf, 20%, 2KV, Cer. Disc
★C1903	EP25X158	.0175uf, 5%, 1.5KV, Polypropylene
★C1904	EP25X159	.15uf, 10%, 200V, Polypropylene
★C1905	EP25X91	.47uf, 10%, 400V, Polyester
C1907	EP18X217	330pf, 20%, 500V, Cer. Disc
C1909	EP25X151	2700pf, 10%, 100V, Mylar
C1915	EP25X151	2700pf, 10%, 200V, Mylar

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
★R1901	EP14X297	170 ohm, 10%, 7W, Wirewound
R1907	EP14X187	100 ohm, 5%, 1/2W, Carbon
R1911	EP14X128	330 ohm, 5%, 1/2W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	Horiz Centering, 500 ohm, 10%

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	Horiz Output Damper, NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y1903	EP57X5	Rectifier, Silicon
Y1905	EP57X5	Rectifier, Silicon
Y1907	EP57X5	Rectifier, Silicon

COILS

REF. NO.	PART NO.	DESCRIPTION
★L1901	EP36X449	COIL-Width
L1903	EP36X450	CHOKE-2.5uh, 10%
★L1905	EP36X432	COIL-Linearity
★T1901	EP36X448	COIL-Pincushion Asm

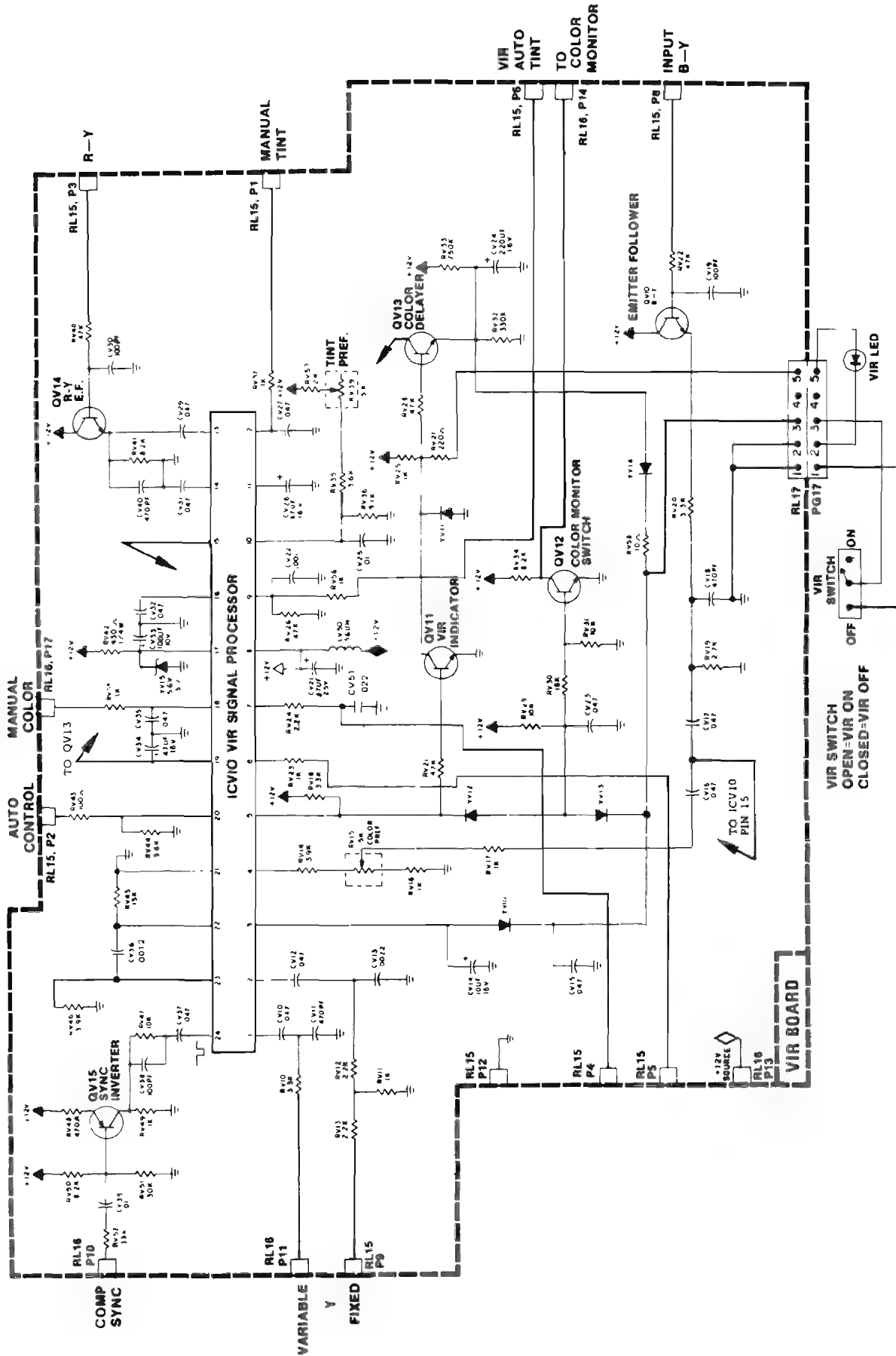
MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EU3X532	CLIP-Ground
RL12	EP8X30	CONNECTOR-1 Pin
FB1901	EP12X2	FERRITE-Bead
FB1903	EP12X2	FERRITE-Bead
	EP3X52	SPACER-Q1901

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PC/VIR BOARD (EP93X462) SCHEMATIC DIAGRAM



PC/VIR BOARD (EP93X462) REPLACEMENT PARTS LIST

VIR CIRCUIT BOARD ASM

EP93X462

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
CV10	EP25X87	.047uf, 20%, 50V, Polyester
CV11	EP18X204	470pf, 10%, 50V, Cer. Disc
CV12	EP25X87	.047uf, 20%, 50V, Polyester
CV13	EP18X198	2200pf, 30%, 25V, Cer. Disc
CV14	EP31X149	10uf, 10%, 16V, Elect.
CV15	EP25X87	.047uf, 20%, 50V, Polyester
CV16	EP25X87	.047uf, 20%, 50V, Polyester
CV17	EP25X87	.047uf, 20%, 50V, Polyester
CV18	EP18X204	470pf, 10%, 50V, Cer. Disc
CV19	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV21	EP31X169	100uf, 10%, 25V, Elect.
CV22	EP18X197	1000pf, 20%, 50V, Cer. Disc
CV23	EP25X87	.047uf, 20%, 50V, Polyester
CV24	EP31X141	220uf, 10%, 16V, Elect.
CV25	EP18X169	.01uf, 30%, 25V, Cer. Disc
CV26	EP31X45	47uf, 10%, 16V, Elect.
CV27	EP25X87	.047uf, 20%, 50V, Polyester
CV29	EP25X87	.047uf, 20%, 50V, Polyester
CV30	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV31	EP25X87	.047uf, 20%, 50V, Polyester
CV32	EP25X87	.047uf, 20%, 50V, Polyester
CV33	EP31X162	100uf, 10%, 10V, Elect.
CV34	EP31X45	47uf, 10%, 16V, Elect.
CV35	EP25X87	.047uf, 20%, 50V, Polyester
CV36	EP18X271	1200pf, 20%, 50V, HiK, Cer. Disc
CV37	EP25X87	.047uf, 20%, 50V, Polyester
CV38	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CV39	EP18X169	.01uf, 30%, 25V, Cer. Disc
CV40	EP18X204	470pf, 10%, 50V, Cer. Disc
CV45	EP31X166	1uf, 20%, 50V, Elect.
CV51	EP18X214	.022uf, 20%, 500V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
RV10	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
RV11	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
RV12	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
RV13	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV14	EP14X437	3.9K ohm, 5%, 1/4W, Carbon
RV16	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV17	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV18	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
RV19	EP14X304	2.7K ohm, 5%, 1/4W, Carbon
RV20	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
RV21	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV22	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV23	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV24	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
RV25	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV26	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV27	EP14X129	220 ohm, 5%, 1/4W, Carbon
RV28	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV29	EP14X103	10K ohm, 5%, 1/4W, Carbon
RV30	EP14X414	18K ohm, 5%, 1/4W, Carbon
RV31	EP14X103	10K ohm, 5%, 1/4W, Carbon
RV32	EP14X140	330K ohm, 5%, 1/4W, Carbon
RV33	EP14X438	750K ohm, 5%, 1/4W, Carbon
RV34	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
RV35	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
RV36	EP14X370	9.1K ohm, 5%, 1/4W, Carbon
RV37	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV40	EP14X131	47K ohm, 5%, 1/4W, Carbon
RV41	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
RV42	EP14X289	430 ohm, 5%, 1/4W, Carbon
RV43	ES14X70	100 ohm, 5%, 1/4W, Carbon
RV44	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
RV45	EP14X398	15K ohm, 5%, 1/4W, Carbon
RV46	EP14X437	3.9K ohm, 5%, 1/4W, Carbon
RV47	EP14X103	10K ohm, 5%, 1/4W, Carbon

RV43	ES14X58	470 ohm, 5%, 1/4W, Carbon
RV49	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV50	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
RV51	EP14X419	30K ohm, 5%, 1/4W, Carbon
RV52	EP14X136	33K ohm, 5%, 1/4W, Carbon
RV53	EP14X409	10 ohm, 5%, 1/4W, Carbon
RV55	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV56	ES14X71	1K ohm, 5%, 1/4W, Carbon
RV57	ES14X64	2K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
RV15	EP49X472	5K ohm, 20%
RV39	EP49X472	5K ohm, 20%

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
ICV10	EP84X60	MONO

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
QV10	EP15X88	NPN, Silicon
QV11	EP15X88	NPN, Silicon
QV12	EP15X88	NPN, Silicon
QV13	EP15X88	NPN, Silicon
QV14	EP15X88	NPN, Silicon
QV15	EP15X48	PNP, Silicon

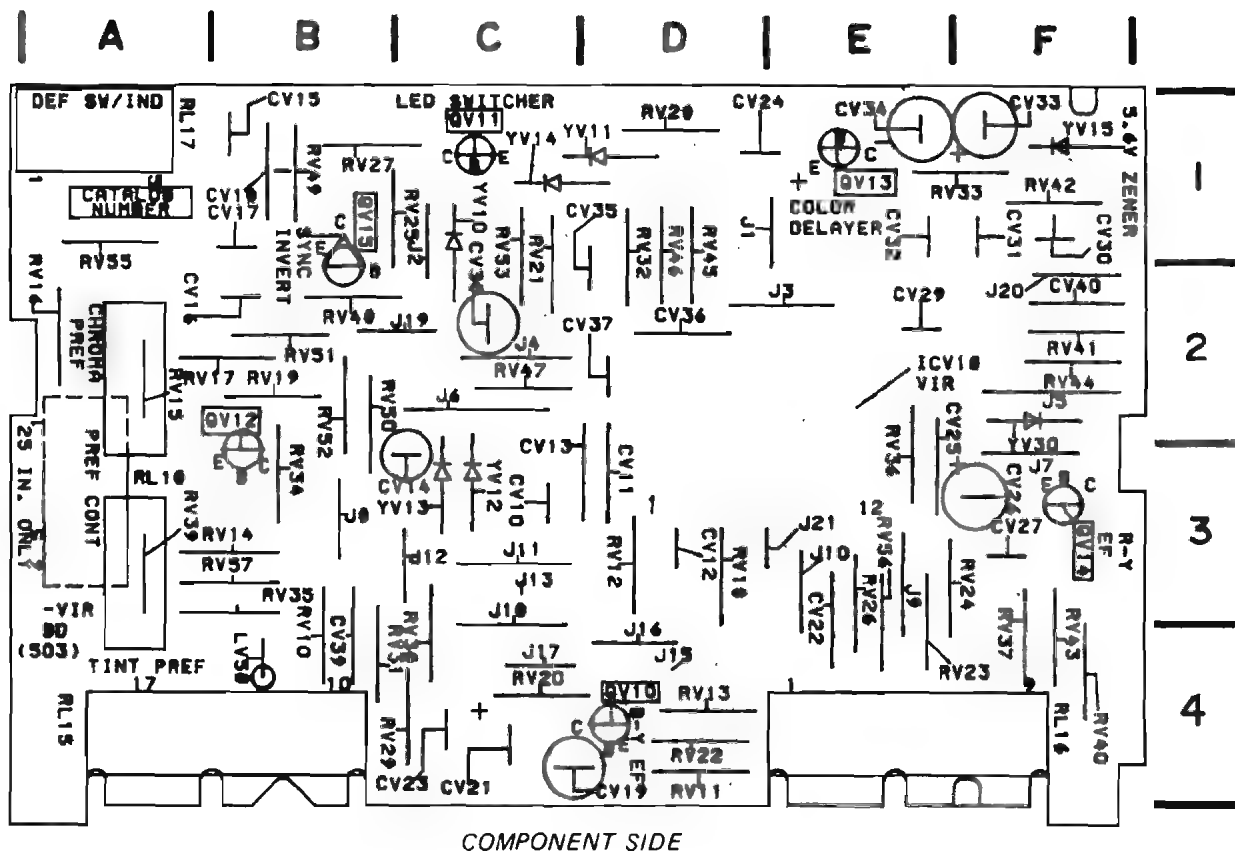
DIODES

REF. NO.	PART NO.	DESCRIPTION
YV10	EU16X11	Silicon
YV11	EU16X11	Silicon
YV12	EU16X11	Silicon
YV13	EU16X11	Silicon
YV14	EU16X11	Silicon
YV15	EP16X19	Zener, 1W

COIL

REF. NO.	PART NO.	DESCRIPTION
LV50	EP36X33	CHOKE-56uh, 5%

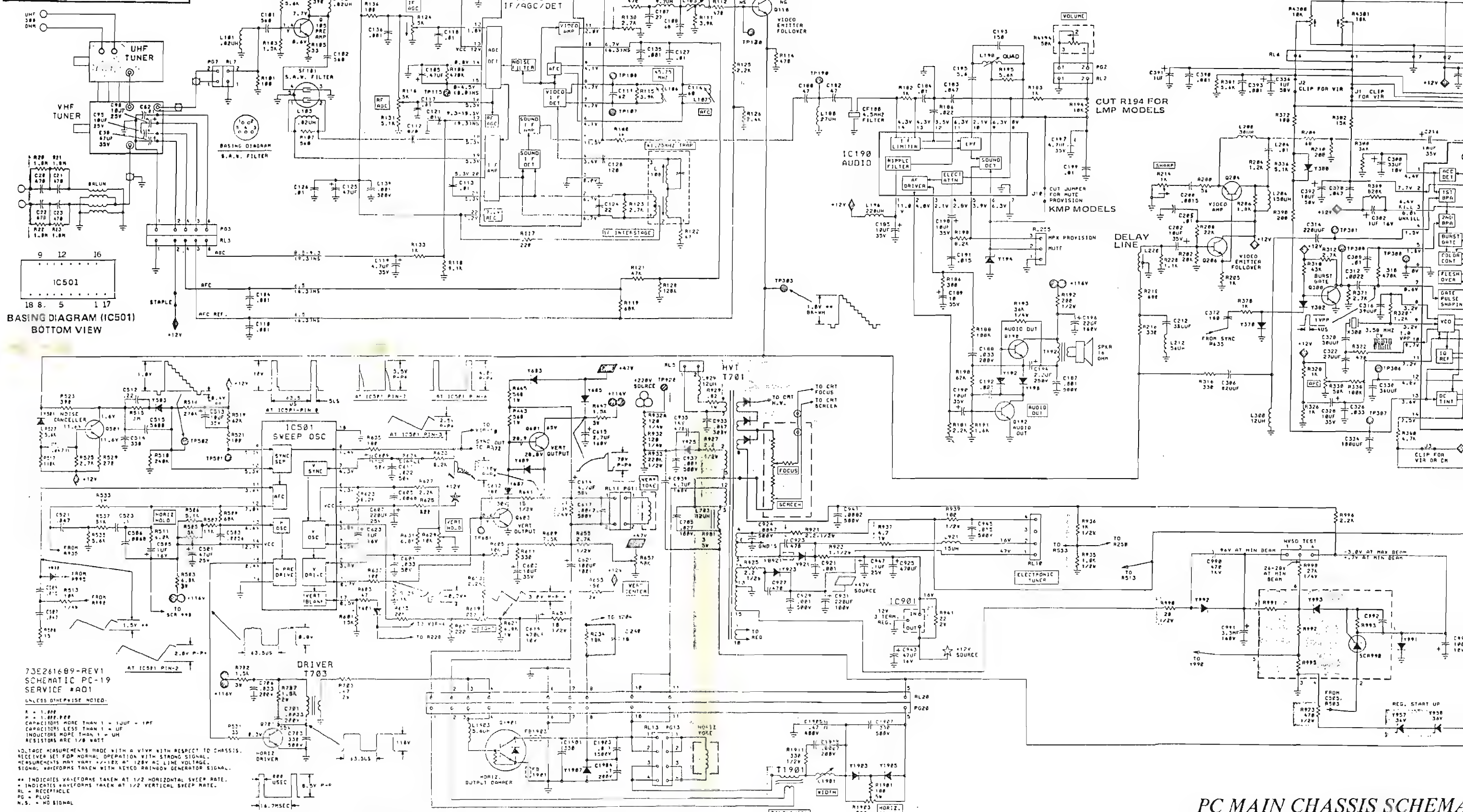
PC/VIR CIRCUIT BOARD (EP93X462) COMPONENT LAYOUT

[illegible]

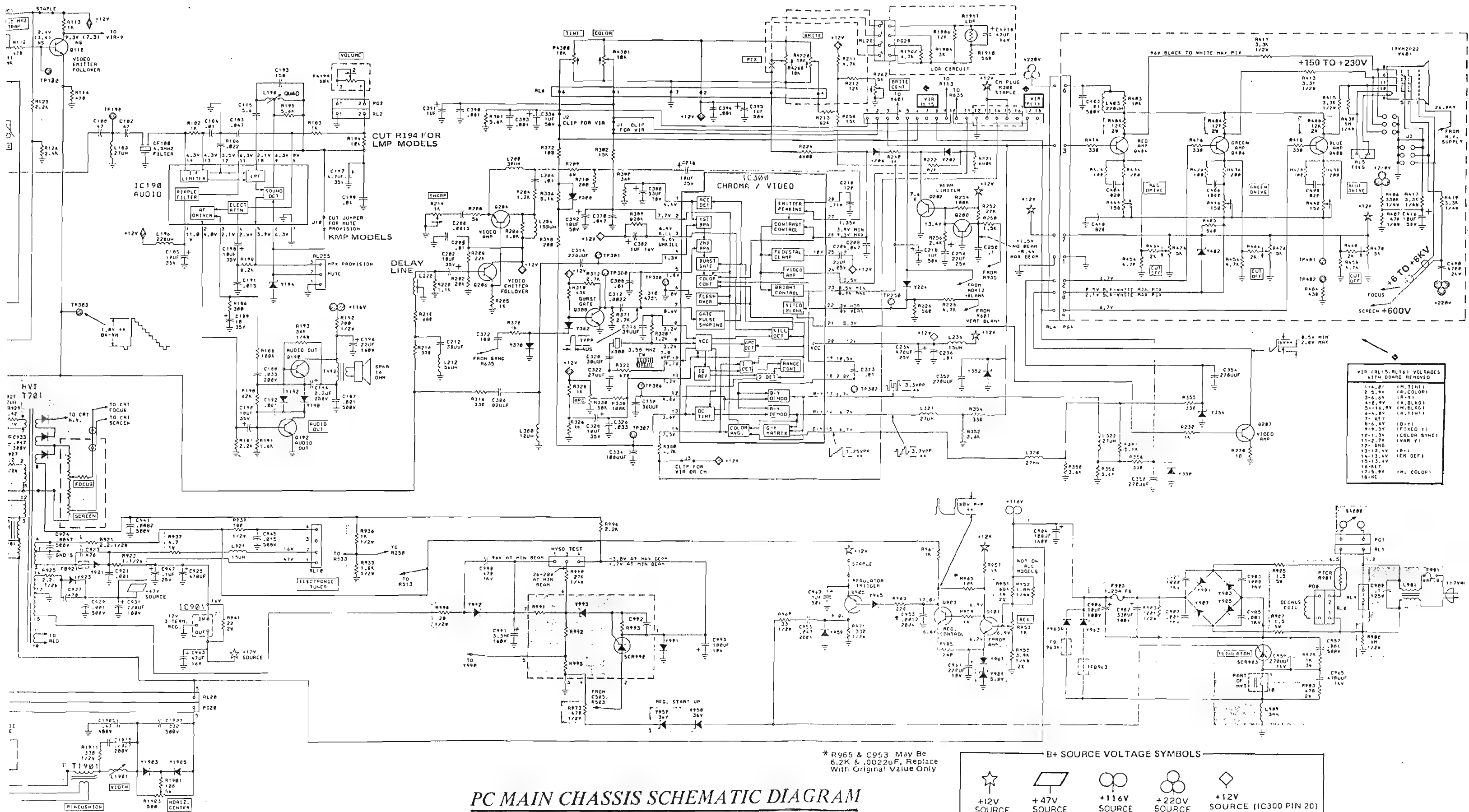
| F | E | D | C | B | A

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SEE SEPARATE MINI-MANUAL FOR
ELECTRONIC TUNING MODELS.



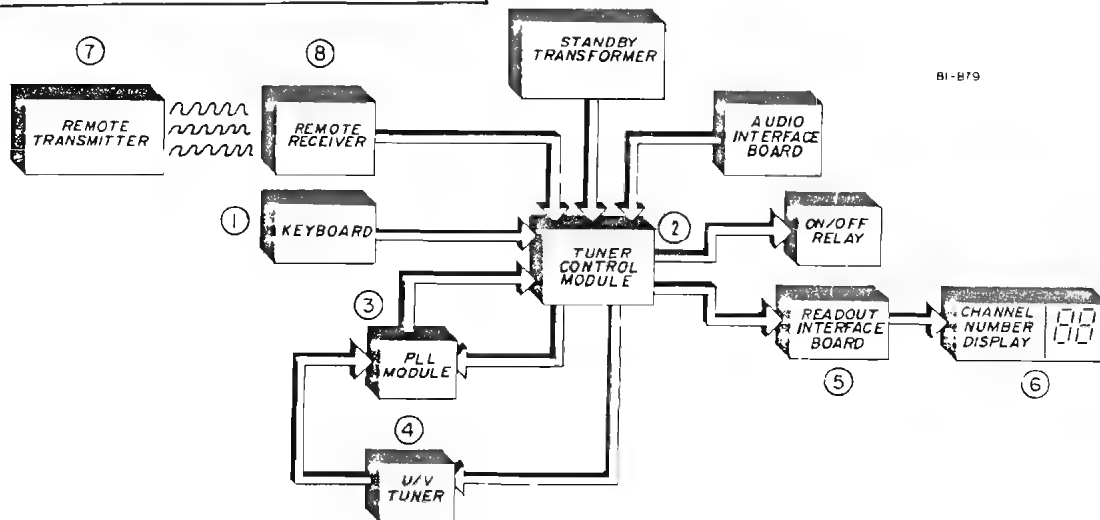
PC MAIN CHASSIS SCHEMA



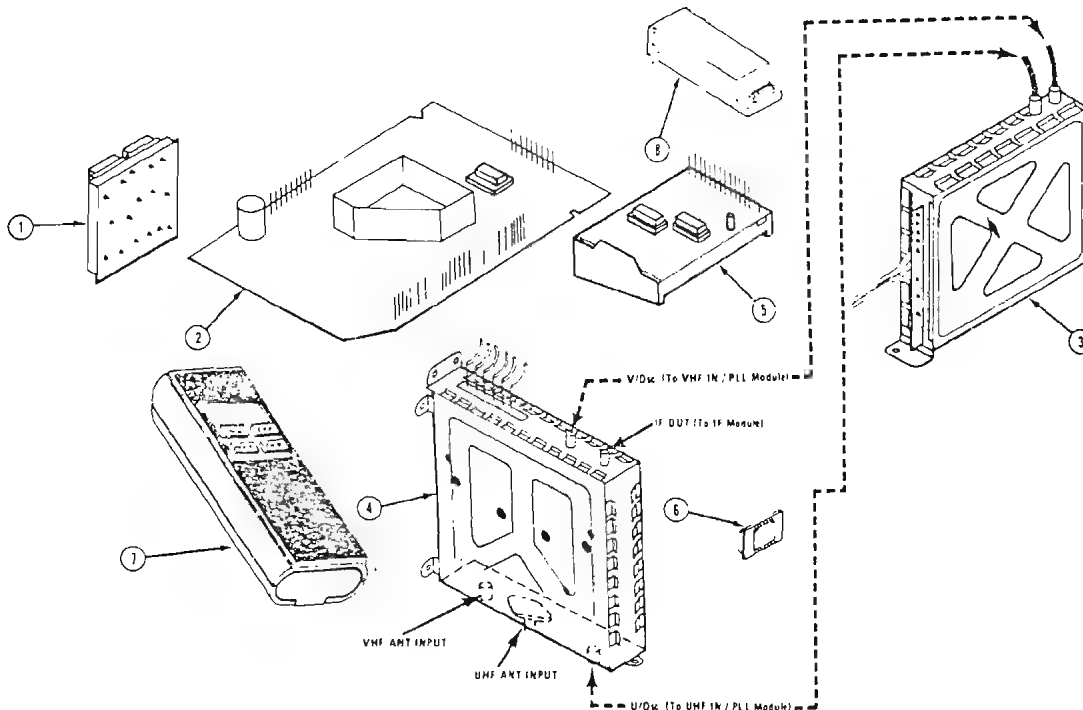
PC MAIN CHASSIS SCHEMATIC DIAGRAM

LMP91 REMOTE / ELECTRONIC TUNING SYSTEM

PC CHASSIS



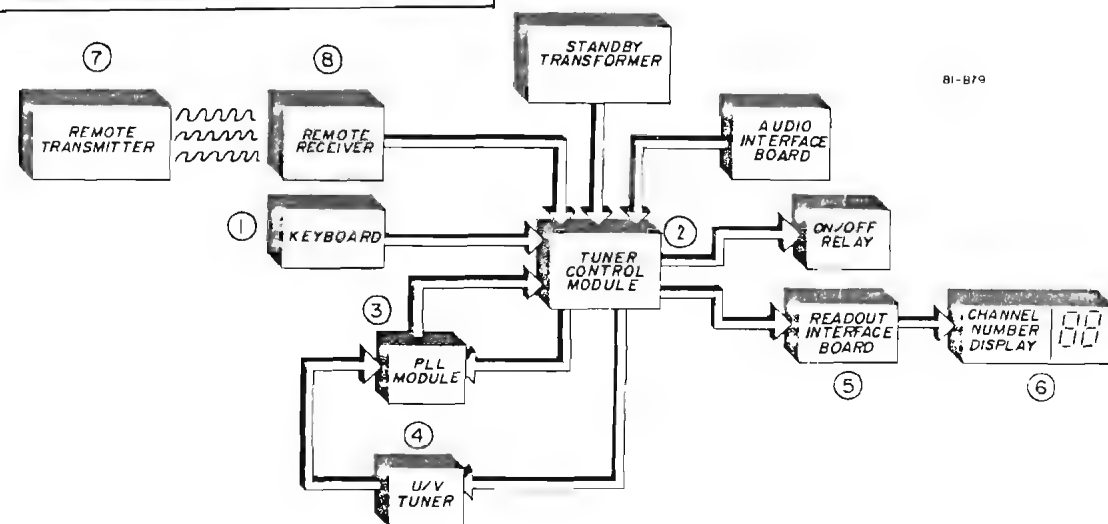
LMP91 TUNING SYSTEM BLOCK DIAGRAM



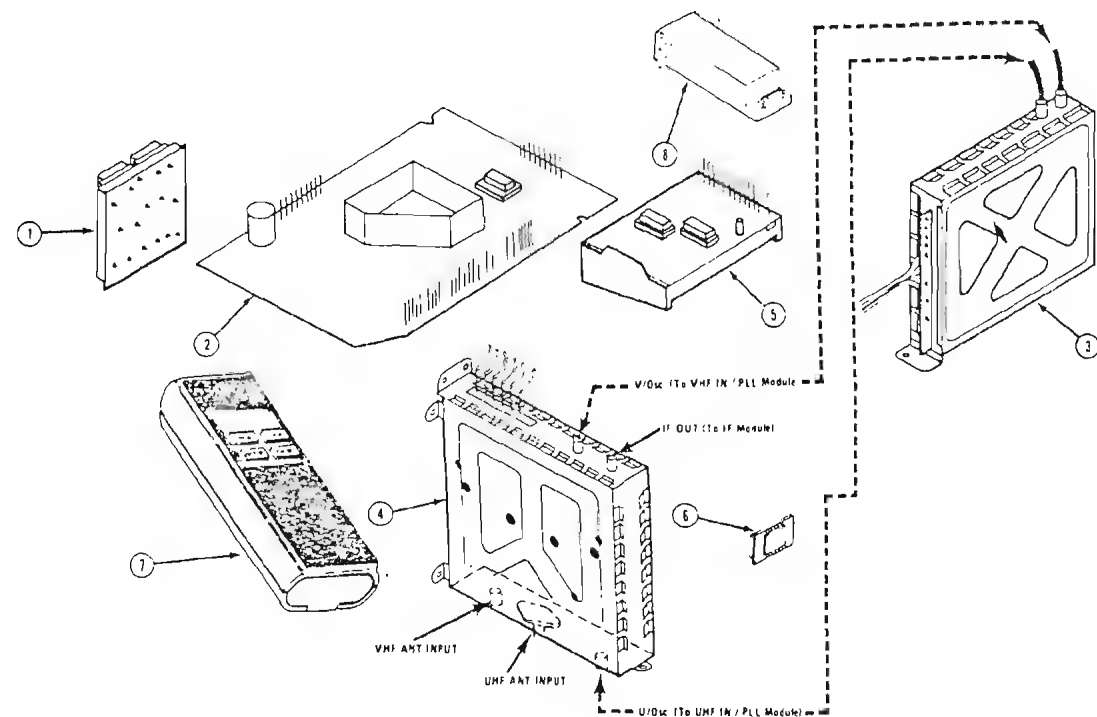
LMP91 TUNING SYSTEM COMPONENT ASSEMBLIES

LMP91 REMOTE/ELECTRONIC TUNING SYSTEM

PC CHASSIS



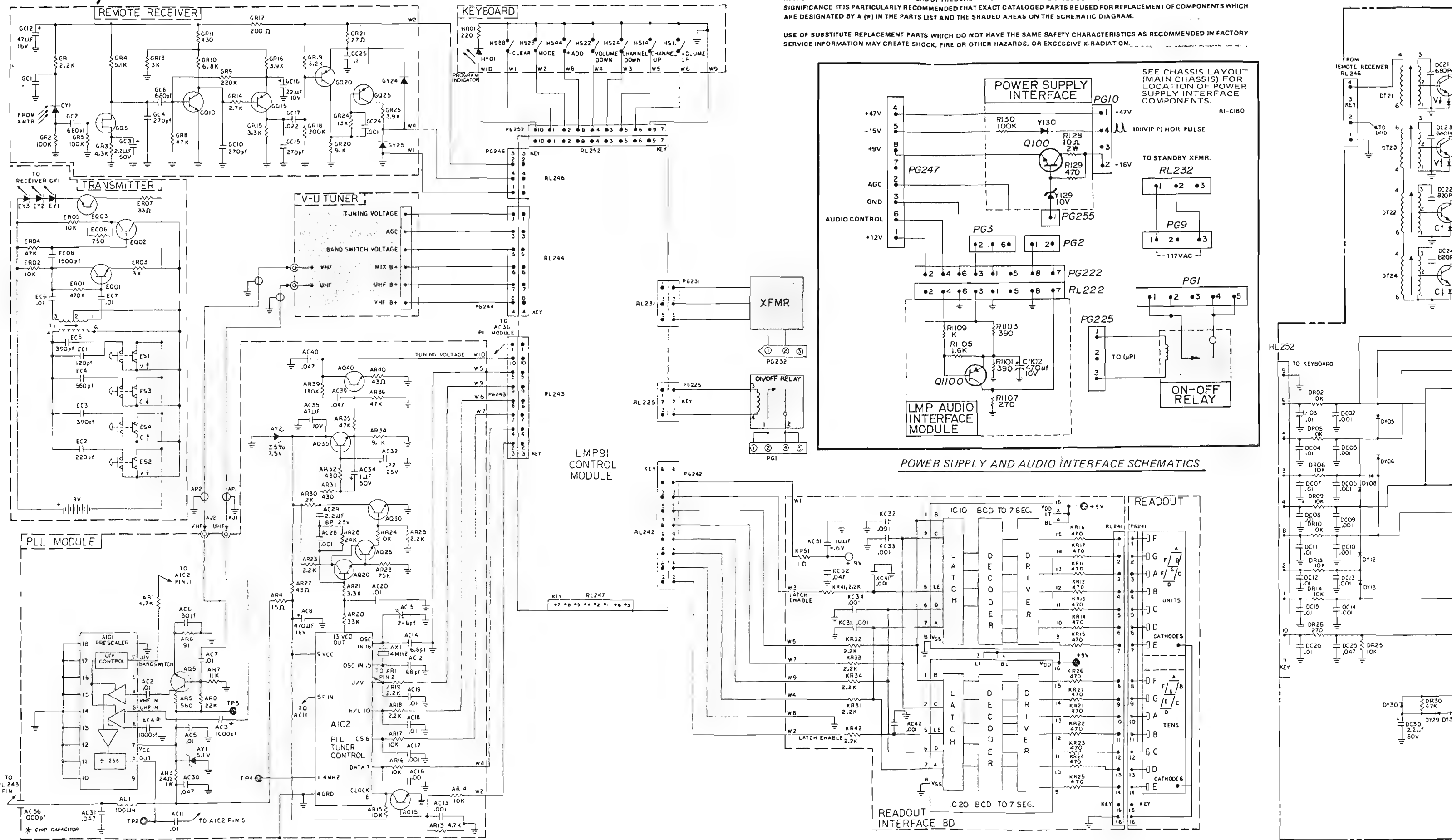
LMP91 TUNING SYSTEM BLOCK DIAGRAM



LMP91 TUNING SYSTEM COMPONENT ASSEMBLIES

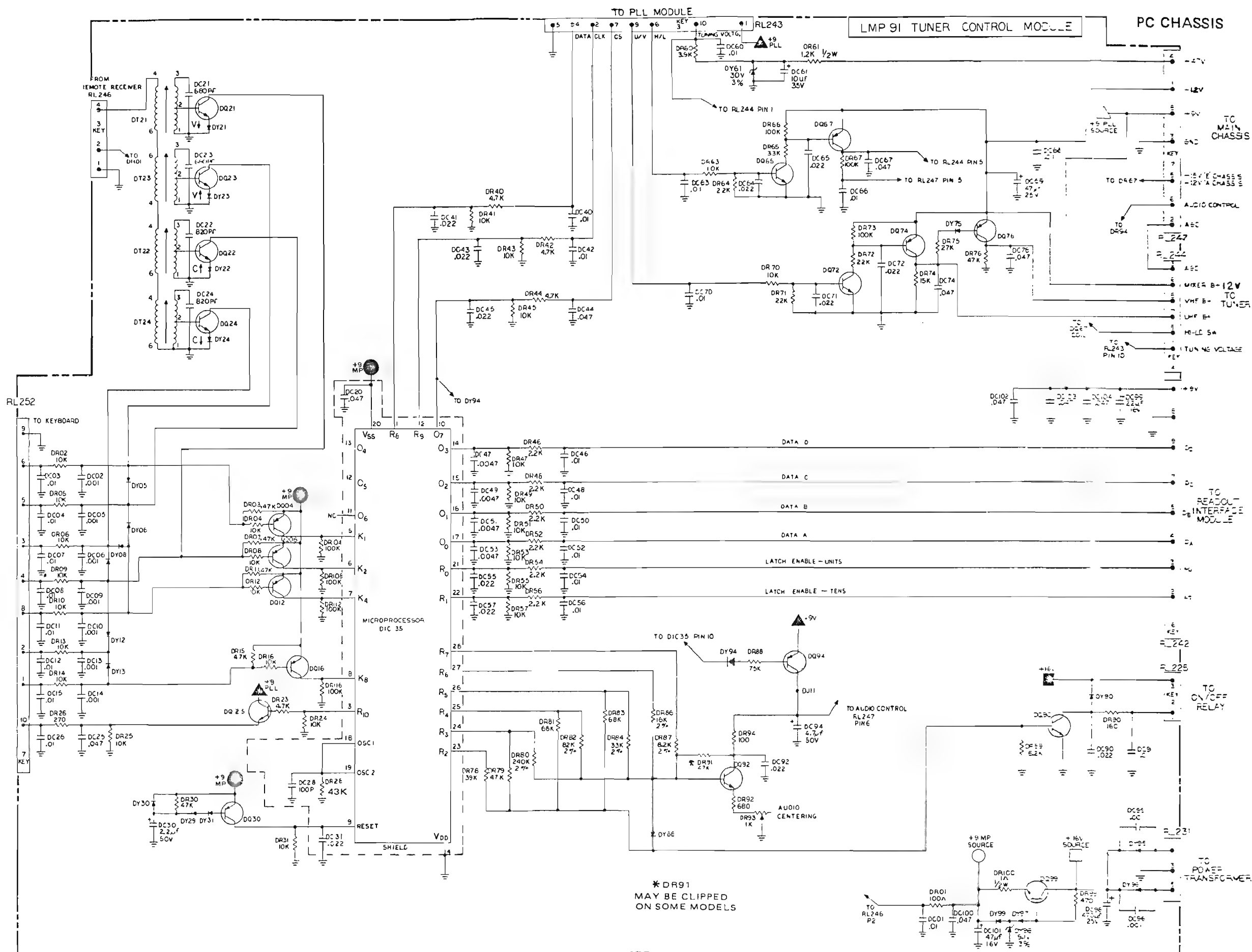
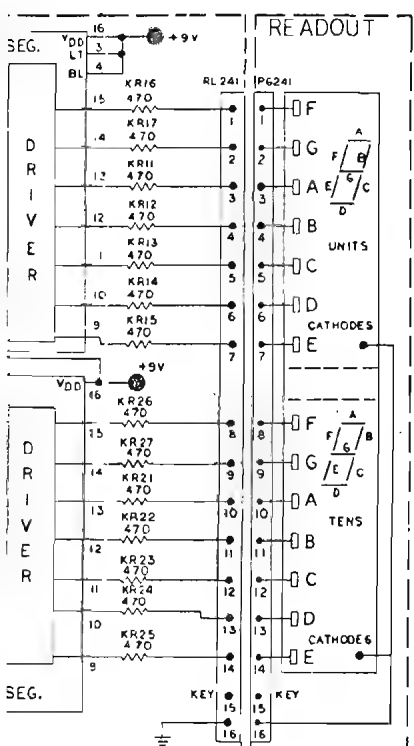
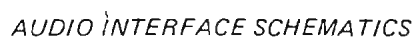
PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.

USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.



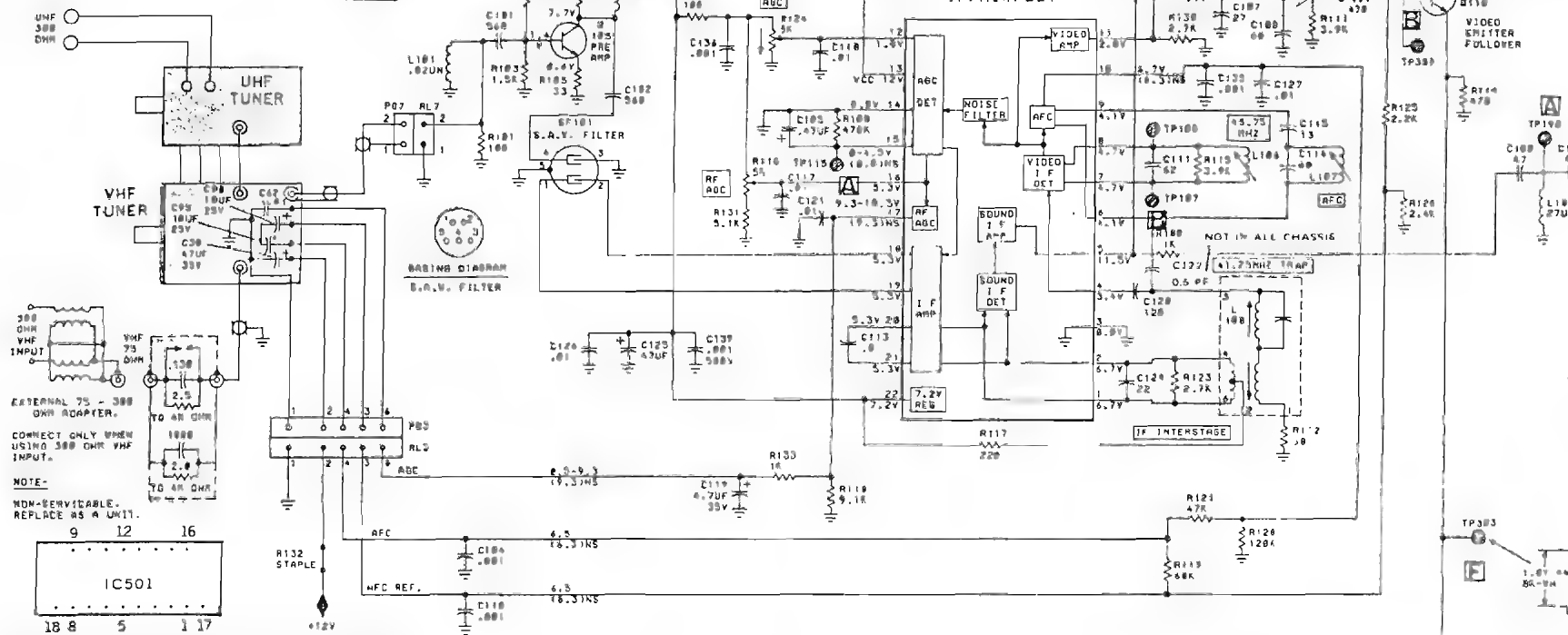
LMP91 ELECTRONIC TUNING SYSTEM SCHEMATIC DIAGRAM

E SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY DS. OR EXCESSIVE X-RADIATION.

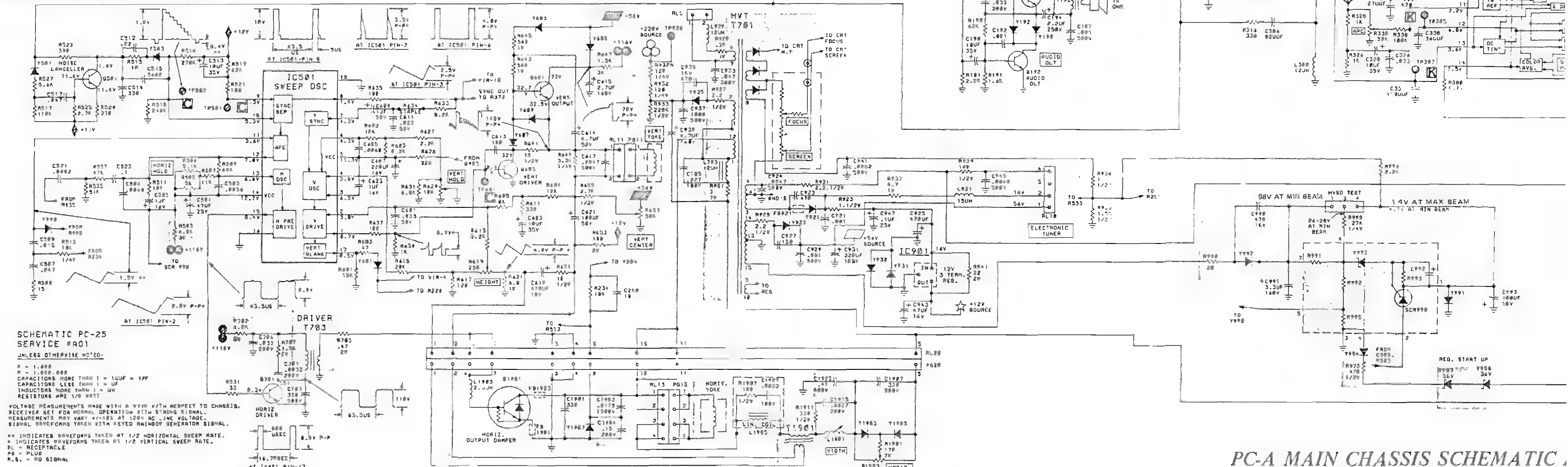


25" PC-A CHASSIS

SEE ELECTRONIC TUNING SECTION
FOR ELECTRONIC TUNING MODELS

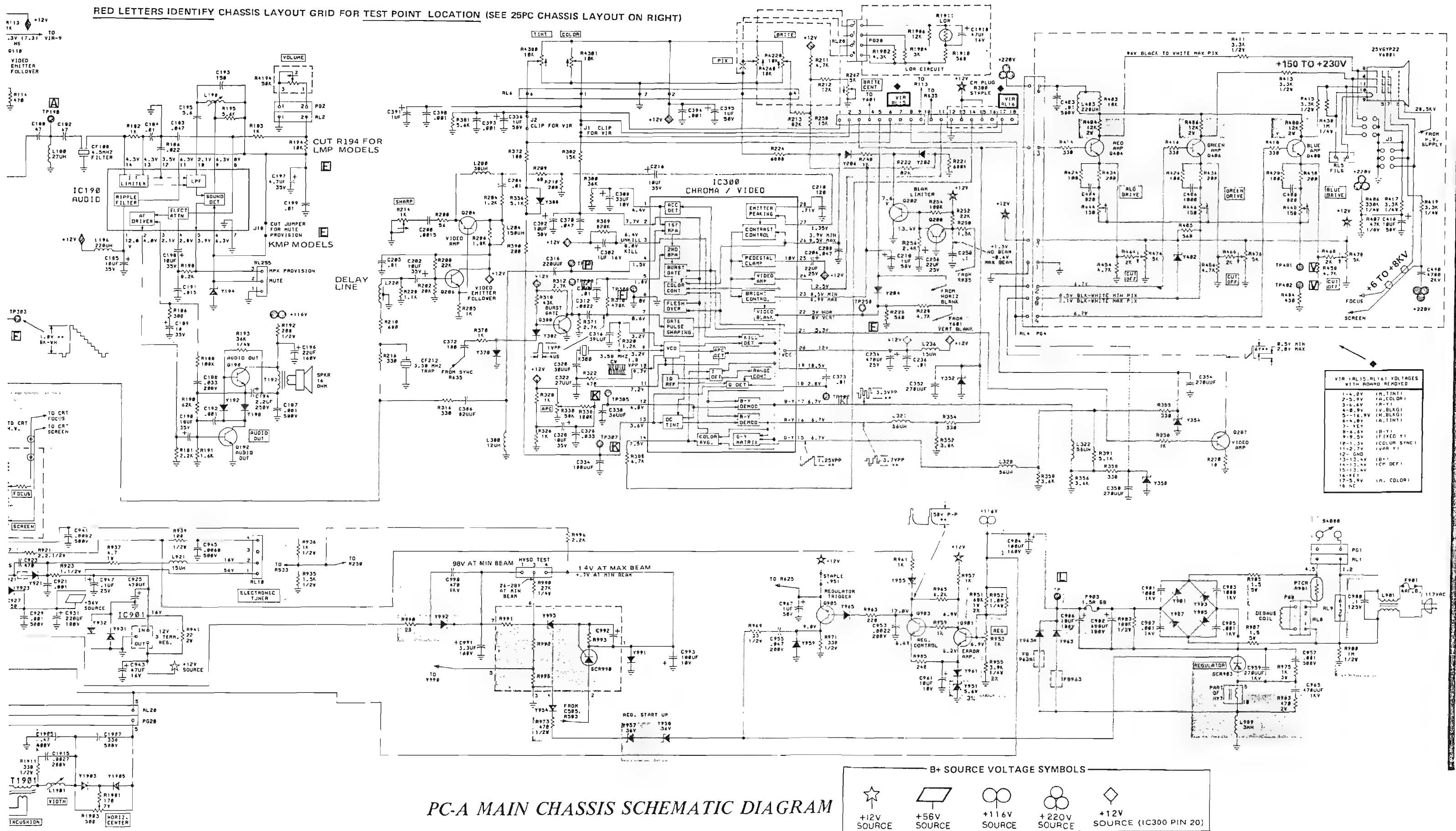


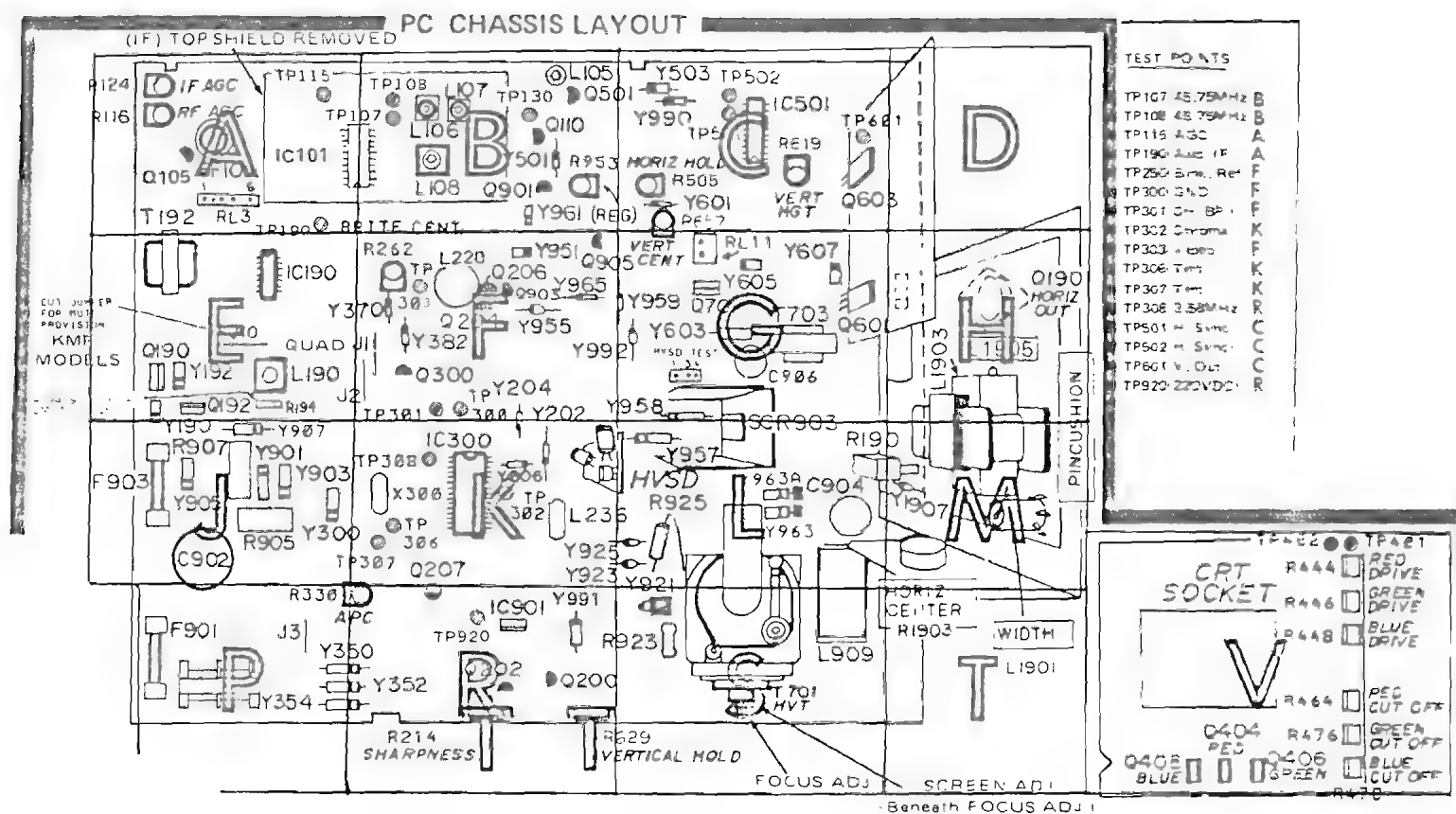
BASING DIAGRAM (IC501) BOTTOM VIEW



HORIZ. OUTPUT RESISTOR AND DAMPER DIODE ARE INCLUDED IN THE SAME UNIT. REPLACE ONLY WITH ORIGINAL EQUIPMENT GE CATALOG REPLACEMENT PART NUMBER EP15X218.

PC-A MAIN CHASSIS SCHEMATIC





PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

203	ES14X71	1K ohm, 5%, 1/8W, Carbon
206	EP14X190	1.8K ohm, 5%, 1/8W, Carbon
208	EP14X303	22K ohm, 5%, 1/8W, Carbon
209	EP14X182	68 ohm, 5%, 1/8W, Carbon
210	Common	200 ohm, 5%, 1/8W, Carbon
211	EP14X249	4.7K ohm, 5%, 1/8W, Carbon
212	EP14X284	12K ohm, 5%, 1/8W, Carbon
213	EP14X271	82K ohm, 5%, 1/8W, Carbon
216	Common	330 ohm, 5%, 1/8W, Carbon
218	EP14X283	680 ohm, 5%, 1/8W, Carbon
220	EP14X189	1.1K ohm, 5%, 1/8W, Carbon
221	EP14X293	680K ohm, 5%, 1/8W, Carbon
222	EP14X271	82K ohm, 5%, 1/8W, Carbon
224	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
226	ES14X59	560 ohm, 5%, 1/8W, Carbon
228	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
230	ES14X71	1K ohm, 5%, 1/8W, Carbon
234	Common	18K ohm, 5%, 1/8W, Carbon
240	ES14X71	1K ohm, 5%, 1/8W, Carbon
250	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
252	EP14X303	22K ohm, 5%, 1/8W, Carbon
254	EP14X105	100K ohm, 5%, 1/8W, Carbon
256	EP14X184	2.4K ohm, 5%, 1/8W, Carbon
258	EP14X285	15K ohm, 5%, 1/8W, Carbon
270	EP14X284	10 ohm, 5%, 1/8W, Carbon
300	Common	36K ohm, 5%, 1/8W, Carbon
302	EP14X285	15K ohm, 5%, 1/8W, Carbon
310	EP14X133	470K ohm, 5%, 1/8W, Carbon
312	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
316	EP14X128	330 ohm, 5%, 1/8W, Carbon
318	Common	43K ohm, 5%, 1/8W, Carbon
320	Common	1.2K ohm, 5%, 1/8W, Carbon
322	ES14X58	470 ohm, 5%, 1/8W, Carbon
326	ES14X71	1K ohm, 5%, 1/8W, Carbon
328	ES14X71	1K ohm, 5%, 1/8W, Carbon
336	Common	5.1K ohm, 5%, 1/8W, Carbon
338	EP14X105	100K ohm, 5%, 1/8W, Carbon
350	Common	3.6K ohm, 5%, 1/8W, Carbon
352	Common	3.6K ohm, 5%, 1/8W, Carbon
354	EP14X128	330 ohm, 5%, 1/8W, Carbon
355	EP14X128	330 ohm, 5%, 1/8W, Carbon
356	Common	3.6K ohm, 5%, 1/8W, Carbon
358	EP14X128	330 ohm, 5%, 1/8W, Carbon
370	EP14X284	1K ohm, 5%, 1/8W, Carbon
371	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
372	EP14X187	100 ohm, 5%, 1/8W, Carbon
373	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
381	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
389	Common	820K ohm, 10%, 1/8W, Carbon
390	Common	200 ohm, 5%, 1/8W, Carbon
391	Common	5.1K ohm, 5%, 1/8W, Carbon
393	EP14X323	6.8K ohm, 5%, 3W, Flame Proof
396	Common	5.1K ohm, 5%, 1/8W, Carbon
397	Common	11K ohm, 5%, 1/8W, Carbon
398	EP14X188	15 ohm, 5%, 1/8W, Carbon
399	EP14X119	68K ohm, 5%, 1/8W, Carbon
411	EP14X103	10K ohm, 5%, 1/8W, Carbon
413	EP14X103	10K ohm, 5%, 1/4W, Carbon
415	EP14X12	1 meg ohm, 5%, 1/8W, Carbon
416	Common	270K ohm, 5%, 1/8W, Carbon
417	Common	110K ohm, 5%, 1/8W, Carbon
418	Common	240K ohm, 5%, 1/8W, Carbon
419	Common	62K ohm, 5%, 1/8W, Carbon
421	EP14X187	100 ohm, 5%, 1/8W, Carbon
423	ES14X57	390 ohm, 5%, 1/8W, Carbon
425	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
427	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
429	Common	270 ohm, 5%, 1/8W, Carbon
431	ES14X56	33 ohm, 5%, 1/8W, Carbon
433	EP14X106	1 meg ohm, 10%, 1/8W, Carbon
435	Common	51K ohm, 5%, 1/8W, Carbon
437	EP14X125	47K ohm, 5%, 1/8W, Carbon
438	EP14X285	15K ohm, 5%, 1/8W, Carbon
439	EP14X284	10K ohm, 5%, 1/8W, Carbon
441	ES14X57	47 ohm, 5%, 1/8W, Carbon
443	EP14X103	10K ohm, 5%, 1/8W, Carbon
445	EP14X284	12K ohm, 5%, 1/8W, Carbon
447	Common	11K ohm, 5%, 1/8W, Carbon +
449	EP14X128	330 ohm, 5%, 1/8W, Carbon
451	EP14X243	2.2K ohm 5%, 1/8W, Carbon

R615	EP14X285	20K ohm, 5%, 1/8W, Carbon
R617	Common	120 ohm, 5%, 1/8W, Carbon
R621	EP14X272	6.8 ohm, 5%, 1W, Metal Oxide
R623	Common	8.2K ohm, 5%, 1/8W, Carbon
R625	Common	220 ohm, 5%, 1/8W, Carbon
R627	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R631	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
R633	Common	8.2K ohm, 5%, 1/8W, Carbon
R635	Common	180 ohm, 5%, 1/8W, Carbon
R637	EP14X187	100 ohm, 5%, 1/8W, Carbon
R639	ES14X71	1K ohm, 5%, 1/8W, Carbon
R641	EP14X188	15 ohm, 5%, 1/2W, Carbon
R643	EP14X102	560 ohm, 5%, 1W, Metal Oxide
R645	EP14X102	560 ohm, 5%, 1W, Metal Oxide
R647	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R649	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R651	Common	10 ohm, 5%, 1/2W, Carbon
R653	EP14X220	180 ohm, 5%, 2W, Metal Oxide
R655	Common	2.7K ohm, 5%, 1/2W, Carbon
R702	EP14X328	1.2K ohm, 5%, 3W, Flame Proof
R703	EP14X262	.47 ohm, 5%, 2W, Metal Oxide
R707	EP14X62	1.5K ohm, 5%, 2W, Metal Oxide
R900	EP14X106	1 meg ohm, 5%, 1/2W, Carbon
R901	EP14X330	Degaussing
R903	EP14X105	100K ohm, 5%, 1/2W, Carbon
R905	EP14X317	1.5 ohm, 10%, 5W, Wirewound
R907	EP14X317	1.5 ohm, 10%, 5W, Wirewound
R921	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R923	ES14X79	1 ohm, 5%, 1/2W, Flame Proof
R925	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R927	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R929	EP14X266	.39 ohm, 5%, 1W, Metal Oxide
R932	Common	120 ohm, 5%, 1/4W, Carbon
R932A	Common	120 ohm, 5%, 1/4W, Carbon
R933	Common	220K ohm, 5%, 1/2W, Carbon
R935	ES14X62	1.5K ohm, 5%, 1/2W, Carbon
R936	EU13X4	1K ohm, 5%, 1/2W, Carbon
R937	EP14X287	4.7 ohm, 5%, 1W, Metal Oxide
R939	EP14X187	100 ohm, 5%, 1/2W, Carbon
R941	EP14X154	22 ohm, 5%, 2W, Metal Oxide
R951	EP14X320	68K ohm, 2%, 1W, Metal Oxide
R952	Common	1.8 meg, ohm, 5%, 1/4W, Carbon
R955	EP14X252	3.9K ohm, 2%, 1/8W, Carbon
R957	EP14X284	1K ohm, 5%, 1/8W, Carbon
R959	EP14X284	1K ohm, 5%, 1/8W, Carbon
R961	ES14X71	1K ohm, 5%, 1/8W, Carbon
R963	Common	220 ohm, 5%, 1/8W, Carbon
R965	Common	6.2K ohm, 5%, 1/8W, Carbon
R969	ES14X56	33 ohm, 5%, 1/2W, Carbon
R971	EP14X128	330 ohm, 5%, 1/2W, Carbon
R973	ES14X58	470 ohm, 5%, 1/2W, Carbon +
R975	EP14X275	1K ohm, 10%, 3W, Wirewound
R981	EP14X258	3 ohm, 5%, 7W, Wirewound
R983	EP14X321	470 ohm, 5%, 2W, Metal Oxide
R985	Common	240 ohm, 5%, 1/8W, Carbon
R990	EP14X269	20 ohm, 5%, 1/2W, Carbon
R996	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
R998	Common	27K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

REF NO	PART NO.	DESCRIPTION
R116	EP49X463	RF/AFC, 5K ohm, 20%
R124	EP49X463	IF/AGC, 5K ohm, 20%
R214	EP49X464	Sharpness, 1K ohm, 20%
R267	EP49X463	Brightness, 5K ohm, 20%
R330	EP49X465	APC, 50K ohm, 20%
R505	EP49X463	Horiz. Hold, 5K ohm, 20%
R619	EP49X466	Vert. Height, 250 ohm, 20%
R629	EP49X467	Vert. Hold, 10K ohm, 20%
R657	EP49X465	Vert. Centering, 50K ohm, 20%
R953	EP49X468	Reg. 1K ohm, 20%

INTERGRATED CIRCUITS

REF NO	PART NO.	DESCRIPTION
IC101	EP62X167	HVSD-Thick Film
IC190	EP84X213	VIF/Det/AFC
IC300	EP84X216	IF/Sound
	EP84X221	Chroma/Video

IC501	EP84X215	Sync. Sep.
IC901	EP84X217	12V, 3 Ter. Regulator
CF100	EP41X126	Ceramic Filter, 4.5mhz, Audio
CF212	EP41X133	Ceramic Trap, 3.58mhz
SF101	EP41X123	Wave Filter
X300	EP41X10	Crystal-Quartz

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
* SCR903	EP15X217	SCR Regular, PNP
Q105	EP15X104	HF, BiPolar
Q110	EP15X87	NPN, Silicon
Q190	EP15X19	NPN, Silicon
Q192	EP15X19	NPN, Silicon
Q200	EP15X88	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q204	EP15X88	NPN, Silicon
Q206	EP15X83	NPN, Silicon
Q207	EP15X57	PNP, Silicon
Q300	EP15X88	NPN, Silicon
Q501	EP15X48	PNP, Silicon
Q601	EP15X105	NPN, Silicon
Q603	EP15X105	NPN, Silicon
Q701	EP15X19	NPN, Silicon
Q901	EP15X88	NPN, Silicon
Q903	EP15X91	NPN, Silicon
Q905	EP15X57	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y190	EP57X4	Rectifier, Silicon
Y192	EP57X4	Rectifier, Silicon
Y194	EP16X58	Zener
Y202	ES16X27	Silicon
Y204	ES16X27	Silicon
Y206	ES16X27	Silicon
Y300	EP16X147	Schockley
Y350	EP16X58	Zener
Y352	EP16X58	Zener
Y354	EP16X58	Zener
Y370	ES16X27	Silicon
Y382	ES16X27	Silicon
Y501	ES16X27	Silicon
Y503	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP57X4	Rectifier, Silicon
Y605	EP57X4	Rectifier, Silicon
Y607	EP57X4	Rectifier, Silicon
Y609	EP57X4	Rectifier, Silicon
Y901	EP57X4	Rectifier, Silicon
Y903	EP57X4	Rectifier, Silicon
Y905	EP57X4	Rectifier, Silicon
Y907	EP57X4	Rectifier, Silicon
Y921	EP16X149	Rectifier, Fast Recovery
Y923	EP57X5	Rectifier, Silicon
Y925	EP57X5	Rectifier, Silicon
Y931	EU16X11	Silicon
Y932	EU16X11	Silicon
* Y951	EP16X19	Zener
Y954	ES16X27	Silicon
Y955	EP57X5	Rectifier, Silicon
* Y957	EP16X148	Zener
* Y958	EP16X148	Zener
Y959	ES16X27	Silicon
Y961	ES16X27	Silicon
Y963	EP16X149	Rectifier, Silicon
Y963A	EP16X149	Rectifier, Silicon
Y965	EU16X11	Silicon
Y990	ES16X27	Silicon
Y991	EP57X4	Silicon
* Y992	EP57X5	Rectifier, Silicon

COILS AND TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
L101	EP36X442	CHOKE--82uh, 10%
L102	EP36X442	CHOKE--82uh, 10%
L103	EP36X442	CHOKE--82uh, 10%

L104	EP36X4	CHOKE--9.2uh
L105	EP36X312	COIL--4.5mc, Trap
L106	EP36X433	COIL--45.75mhz, Molded
L107	EP36X433	COIL--45.75mhz, Molded
L108	EP36X434	COIL--IF 6 41.25mhz, Trap
L110	EP36X436	CHOKE-Filament +
L180	EP36X144	CHOKE--27uh, 5%
L190	EP36X435	COIL--Quad.
L196	ES36X82	CHOKE--220uh, 20%
L200	EP36X314	CHOKE--30uh, 10%
L204	EP36X17	CHOKE--150uh, 10%
L220	EP36X439	COIL--Delay Line
L236	EP36X136	CHOKE--15uh, 10%
L259	EP36X442	CHOKE--82uh, 20%
L300	EP36X23	CHOKE--12uh, 5%
L320	EP36X33	CHOKE--56uh, 5%
L321	EP36X33	CHOKE--56uh, 5%
L322	EP36X33	CHOKE--56uh, 5%
* L703	EP36X437	CHOKE-Filament, H.V. Tuning
* L901	EP36X440	COIL--Line Choke Filter
* L909	EP36X441	CHOKE--3uh, Regulator
L921	EP36X136	CHOKE--15uh, 5%
L929	EP36X437	CHOKE-Filament, H.V. Tuning
T192	EP64X58	TRANSFORMER-Audio Output
* T701	EP77X58	TRANSFORMER-H.V.
* T703	EP64X57	TRANSFORMER-Buffer

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X36	ANODE-CRT Cap
	EP2X539	BRACKET-HVT Support, Plastic
	EP3X7	CLIP-Fuse, F901/F903
	EP66X19	CORD-AC Power Polarized, Wired-In-Type
FB206	EP12X4	FERRITE BEAD
FB921	EP12X8	FERRITE BEAD
FB963	EP12X8	FERRITE BEAD
FB963A	EP12X8	FERRITE BEAD
F901	EP10X19	FUSE-4amp, 250V, Snap-In, Fast Acting
F903	ET10X38	FUSE-1.5amp, 250V, Snap- In, Slow Acting
	EP3X38	WASHER-Shoulder, SCR 903, Q501 Q603

+ Indicates part may appear in early production boards

RGB CIRCUIT BOARD ASM

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C403	EU22X216	.01uf, 20%, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C406	EP18X81	1000pf, 20%, 50V, HiK, Cer. Disc
C408	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C416	EP31X35	10uf, 10%, 50V, Elect.
C490	EP18X267	4700pf, 20%, 2KV, SHiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R403	EP14X103	10K ohm, 5%, 1/8W, Carbon
R404	EP14X289	430 ohm, 5%, 1/8W, Carbon
R405	ES14X59	560 ohm, 5%, 1/8W, Carbon
R406	EP14X140	330K ohm, 5%, 1/4W, Carbon
R407	EP14X125	47K ohm, 5%, 1/8W, Carbon
R411	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R413	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R414	EP14X128	330 ohm, 5%, 1/8W, Carbon
R415	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R416	EP14X128	330 ohm, 5%, 1/8W, Carbon
R417	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R418	EP14X128	330 ohm, 5%, 1/8W, Carbon
R419	EP14X183	3.3K ohm, 5

ohm, 5%, 1/8W, Carbon	R615	EP14X285	20K ohm, 5%, 1/8W, Carbon
8K ohm, 5%, 1/8W, Carbon	R617	Common	120 ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon	R621	EP14X272	6.8 ohm, 5%, 1W, Metal Oxide
ohm, 5%, 1/8W, Carbon	R623	Common	8.2K ohm, 5%, 1/8W, Carbon
O ohm, 5%, 1/8W, Carbon	R625	Common	220 ohm, 5%, 1/8W, Carbon
7K ohm, 5%, 1/8W, Carbon	R627	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon	R631	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon	R633	Common	8.2K ohm, 5%, 1/8W, Carbon
O ohm, 5%, 1/8W, Carbon	R635	Common	180 ohm, 5%, 1/8W, Carbon
O ohm, 5%, 1/8W, Carbon	R637	EP14X187	100 ohm, 5%, 1/8W, Carbon
1K ohm, 5%, 1/8W, Carbon	R639	ES14X71	1K ohm, 5%, 1/8W, Carbon
OK ohm, 5%, 1/8W, Carbon	R641	EP14X188	15 ohm, 5%, 1/2W, Carbon
K ohm, 5%, 1/8W, Carbon	R643	EP14X102	560 ohm, 5%, 1W, Metal Oxide
8K ohm, 5%, 1/8W, Carbon	* R645	EP14X102	560 ohm, 5%, 1W, Metal Oxide
O ohm, 5%, 1/8W, Carbon	* R647	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
7K ohm, 5%, 1/8W, Carbon	R649	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
ohm, 5%, 1/8W, Carbon	R651	Common	10 ohm, 5%, 1/2W, Carbon
K ohm, 5%, 1/8W, Carbon	* R653	EP14X220	180 ohm, 5%, 2W, Metal Oxide
ohm, 5%, 1/8W, Carbon	R655	Common	2.7K ohm, 5%, 1/2W, Carbon
5K ohm, 5%, 1/8W, Carbon	* R702	EP14X328	1.2K ohm, 5%, 3W, Flame Proof
K ohm, 5%, 1/8W, Carbon	* R703	EP14X262	.47 ohm, 5%, 2W, Metal Oxide
OK ohm, 5%, 1/8W, Carbon	* R707	EP14X62	1.5K ohm, 5%, 2W, Metal Oxide
4K ohm, 5%, 1/8W, Carbon	* R900	EP14X106	1 meg ohm, 5%, 1/2W, Carbon
K ohm, 5%, 1/8W, Carbon	* R901	EP14X330	Degaussing
ohm, 5%, 1/8W, Carbon	R903	EP14X105	100K ohm, 5%, 1/2W, Carbon
K ohm, 5%, 1/8W, Carbon	* R905	EP14X317	1.5 ohm, 10%, 5W, Wirewound
K ohm, 5%, 1/8W, Carbon	* R907	EP14X317	1.5 ohm, 10%, 5W, Wirewound
JK ohm, 5%, 1/8W, Carbon	* R921	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
7K ohm, 5%, 1/8W, Carbon	* R923	ES14X79	1 ohm, 5%, 1/2W, Flame Proof
O ohm, 5%, 1/8W, Carbon	* R925	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
K ohm, 5%, 1/8W, Carbon	* R927	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
2K ohm, 5%, 1/8W, Carbon	R929	EP14X266	.39 ohm, 5%, 1W, Metal Oxide
O ohm, 5%, 1/8W, Carbon	R932	Common	120 ohm, 5%, 1/4W, Carbon
ohm, 5%, 1/8W, Carbon	R932A	Common	120 ohm, 5%, 1/4W, Carbon
ohm, 5%, 1/8W, Carbon	R933	Common	220K ohm, 5%, 1/2W, Carbon
1K ohm, 5%, 1/8W, Carbon	* R935	ES14X62	1.5K ohm, 5%, 1/2W, Carbon
JK ohm, 5%, 1/8W, Carbon	* R936	EUI3X4	1K ohm, 5%, 1/2W, Carbon
5K ohm, 5%, 1/8W, Carbon	* R937	EP14X287	4.7 ohm, 5%, 1W, Metal Oxide
5K ohm, 5%, 1/8W, Carbon	R939	EP14X187	100 ohm, 5%, 1/2W, Carbon
O ohm, 5%, 1/8W, Carbon	* R941	EP14X154	22 ohm, 5%, 2W, Metal Oxide
O ohm, 5%, 1/8W, Carbon	* R951	EP14X320	68K ohm, 2%, 1W, Metal Oxide
5K ohm, 5%, 1/8W, Carbon	R952	Common	1.8 meg, ohm, 5%, 1/4W, Carbon
O ohm, 5%, 1/8W, Carbon	* R955	EP14X252	3.9K ohm, 2%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon	R957	EP14X284	1K ohm, 5%, 1/8W, Carbon
1K ohm, 5%, 1/8W, Carbon	R959	EP14X284	1K ohm, 5%, 1/8W, Carbon
O ohm, 5%, 1/8W, Carbon	R961	ES14X71	1K ohm, 5%, 1/8W, Carbon
K ohm, 5%, 1/8W, Carbon	R963	Common	220 ohm, 5%, 1/8W, Carbon
1K ohm, 5%, 1/8W, Carbon	R965	Common	6.2K ohm, 5%, 1/8W, Carbon
K ohm, 10%, 1/8W, Carbon	R969	ES14X56	33 ohm, 5%, 1/2W, Carbon
O ohm, 5%, 1/8W, Carbon	R971	EP14X128	330 ohm, 5%, 1/2W, Carbon
K ohm, 5%, 1/8W, Carbon	* R973	ES14X58	470 ohm, 5%, 1/2W, Carbon
K ohm, 5%, 3W, Flame Proof	* R975	EP14X275	1K ohm, 10%, 3W, Wirewound
K ohm, 5%, 1/8W, Carbon	* R981	EP14X258	3 ohm, 5%, 7W, Wirewound
ohm, 5%, 1/8W, Carbon	* R983	EP14X321	470 ohm, 5%, 2W, Metal Oxide
ohm, 5%, 1/8W, Carbon	R985	Common	240 ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/8W, Carbon	* R990	EP14X269	20 ohm, 5%, 1/2W, Carbon
ohm, 5%, 1/8W, Carbon	R996	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
ohm, 5%, 1/4W, Carbon	R998	Common	27K ohm, 5%, 1/4W, Carbon

IC501	EP84X215	Sync. Sep.
IC901	EP84X217	I2V, 3 Ter. Regulator
CF100	EP41X126	Ceramic Filter, 4.5mhz, Audio
CF212	EP41X133	Ceramic Trap, 3.58mhz
SF101	EP41X123	Wave Filter
X300	EP41X10	Crystal-Quartz

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
SCR903	EP15X217	SCR Regular, PNP
Q105	EP15X104	HF, BiPolar
Q110	EP15X87	NPN, Silicon
Q190	EP15X19	NPN, Silicon
Q192	EP15X19	NPN, Silicon
Q200	EP15X88	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q204	EP15X88	NPN, Silicon
Q206	EP15X83	NPN, Silicon
Q207	EP15X57	PNP, Silicon
Q300	EP15X88	NPN, Silicon
Q501	EP15X48	PNP, Silicon
Q601	EP15X105	NPN, Silicon
Q603	EP15X105	NPN, Silicon
Q701	EP15X19	NPN, Silicon
Q901	EP15X88	NPN, Silicon
Q903	EP15X91	NPN, Silicon
Q905	EP15X57	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y190	EP57X4	Rectifier, Silicon
Y192	EP57X4	Rectifier, Silicon
Y194	EP16X58	Zener
Y202	ES16X27	Silicon
Y204	ES16X27	Silicon
Y206	ES16X27	Silicon
Y300	EP16X147	Schockley
Y350	EP16X58	Zener
Y352	EP16X58	Zener
Y354	EP16X58	Zener
Y370	ES16X27	Silicon
Y382	ES16X27	Silicon
Y501	ES16X27	Silicon
Y503	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP57K4	Rectifier, Silicon
Y605	EP57X4	Rectifier, Silicon
Y607	EP57X4	Rectifier, Silicon
Y609	EP57X4	Rectifier, Silicon
Y901	EP57X4	Rectifier, Silicon
Y903	EP57X4	Rectifier, Silicon
Y905	EP57X4	Rectifier, Silicon
Y907	EP57X4	Rectifier, Silicon
Y921	EP16X149	Rectifier, Fast Recovery
Y923	EP57X5	Rectifier, Silicon
Y925	EP57X5	Rectifier, Silicon
Y931	EU16X11	Silicon
Y932	EU16X11	Silicon
Y951	EP16X19	Zener
Y954	ES16X27	Silicon
Y955	EP57X5	Rectifier, Silicon
Y957	EP16X148	Zener
Y958	EP16X148	Zener
Y959	ES16X27	Silicon
Y961	ES16X27	Silicon
Y963	EP16X149	Rectifier, Silicon
Y963A	EP16X149	Rectifier, Silicon
Y965	EU16X11	Silicon
Y990	ES16X27	Silicon
Y991	EP57X4	Silicon
Y992	EP57X5	Rectifier, Silicon

COILS AND TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
L101	EP36X442	CHOKE-.82uh, 10%
L102	EP36X442	CHOKE-.82uh, 10%
L103	EP36X442	CHOKE-.82uh, 30%

L104	EP36X4	CHOKE-9.2uh
L105	EP36X312	COIL-4.5mc, Trap
L106	EP36X433	COIL-45.75mhz, Molded
L107	EP36X433	COIL-45.75mhz, Molded
L108	EP36X434	COIL-1F & 41.25mhz, Trap
L110	EP36X436	CHOKE-Filament +
L180	EP36X144	CHOKE-27uh, 5%
L190	EP36X435	COIL-Quad.
L196	ES36X82	CHOKE-220uh, 20%
L200	EP36X314	CHOKE-30uh, 10%
L204	EP36X17	CHOKE-150uh, 10%
L220	EP36X439	COIL-Delay Line
L236	EP36X136	CHOKE-15uh, 10%
L259	EP36X442	CHOKE-.82uh, 20%
L300	EP36X23	CHOKE-12uh, 5%
L320	EP36X33	CHOKE-56uh, 5%
L321	EP36X33	CHOKE-56uh, 5%
L322	EP36X33	CHOKE-56uh, 5%
L703	EP36X437	CHOKE-Filament, H.V. Tuning
L901	EP36X440	COIL-Line Choke Filter
L909	EP36X441	CHOKE-3uh, Regulator
L921	EP36X136	CHOKE-15uh, 5%
L929	EP36X437	CHOKE-Filament, H.V. Tuning
T192	EP64X58	TRANSFORMER-Audio Output
T701	EP77X58	TRANSFORMER-H.V.
T703	EP64X57	TRANSFORMER-Buffer

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X36	ANODE-CRT Cap
	EP2X539	BRACKET-HVT Support, Plastic
	EP3X7	CLIP-Fuse, F901/F903
	EP56X19	CORD-AC Power Polarized. Wired-In-Type
FB206	EP12X4	FERRITE BEAD
FB921	EP12X8	FERRITE BEAD
FB963	EP12X8	FERRITE BEAD
FB963A	EP12X8	FERRITE BEAD
F901	EP10X19	FUSE-4amp, 250V, Snap-In. Fast Acting
F903	ET10X38	FUSE-1.5amp, 250V, Snap- In, Slow Acting
	EP3X38	WASHER-Sholder, SCR 903, Q501 0603

+ Indicates part may appear in early production boards

RGB CIRCUIT BOARD ASM

EP933X392		
<u>CAPACITORS</u>		
REF. NO.	PART NO.	DESCRIPTION
C403	EU22X216	.01uf, 20%, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C406	EP18X81	1000pf, 20%, 50V, HiK, Cer. Disc
C408	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C415	EP31X35	10uf, 10%, 50V, Elect.
C490	EP18X267	4700pf, 20%, 2KV, SHiK, Cer. Disc

RESULTS

REF. NO.	PART NO.	DESCRIPTION
R403	EP14X103	10K ohm, 5%, 1/8W, Carbon
R404	EP14X289	430 ohm, 5%, 1/8W, Carbon
R405	ES14X59	560 ohm, 5%, 1/8W, Carbon
R406	EP14X140	330K ohm, 5%, 1/4W, Carbon
R407	EP14X125	47K ohm, 5%, 1/8W, Carbon
R411	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R413	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R414	EP14X128	330 ohm, 5%, 1/8W, Carbon
R415	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R416	EP14X128	330 ohm, 5%, 1/8W, Carbon
R417	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R418	EP14X128	330 ohm, 5%, 1/8W, Carbon
R419	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R424	EP14X187	100 ohm, 5%, 1/8W, Carbon
R426	EP14X187	100 ohm, 5%, 1/8W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R116	EP49X463	RF/AGC, 5K ohm, 20%
R124	EP49X463	IF/AGC, 5K ohm, 20%
R214	EP49X464	Sharpness, 1K ohm, 20%
R262	EP49X463	Brightness, 5K ohm, 20%
R310	EP49X465	APC, 50K ohm, 20%
R505	EP49X463	Horiz. Hold, 5K ohm, 20%
R619	EP49X466	Vert. Height, 250 ohm, 20%
R629	EP49X467	Vert. Hold, 10K ohm, 20%
R657	EP49X465	Vert. Centering, 50K ohm, 20%
R953	EP49X468	Reg., 1K ohm, 20%

INTERGRATED CIRCUITS

REF NO	PART NO.	DESCRIPTION
ohm, 5%, 1/8W, Carbon	EP62X167	HVSD-Thick Film
ohm, 5%, 1/8W, Carbon +	IC101	VIF/Det/AFC
ohm, 5%, 1/8W, Carbon	IC190	IF/Sound
ohm 5%, 1/8W, Carbon	IC300	Chroma/Video

SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGUED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. THE USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARD, OR EXCESSIVE RADIATION.

CONTINUED →

25 PC-A MAIN CHASSIS REPLACEMENT PARTS LIST

25" PC-A CHASSIS ASM

CIRCUIT BOARD ASSEMBLIES

PART NO.	DESCRIPTION
	Main Circuit Board
EP93X392	RGB Circuit Board
EP93X349	Horiz. Heat Sink Circuit Board
EP93X390	VIR Circuit Board

CHASSIS

PARTS NOT ON CIRCUIT BOARDS

CAPACITORS

REF NO	PART NO	DESCRIPTION
C30	EP31X45	47uf, 25V, Elect.
C60	ES25X22	.01uf, 20%, 50V, Polyester
C90	EP31X149	10uf, 35V, Elect.
C95	EP31X149	10uf, 35V, Elect.
C732	EP31X147	47uf, +100-10%, 250V, Elect.
C4000	EP18X81	1000pf, +80-20%, 1KV, HiK, Cer Disc

RESISTORS

REF. NO	PART NO	DESCRIPTION
R10	EP14X154	22 ohm, 5%, 1W, Carbon
R12	EP14X154	18 ohm, 5%, 1W, Carbon
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
RL903	EP49X160	Horiz. Centering

TRANSISTOR

REF. NO	PART NO.	DESCRIPTION
Q100	ES25X125	NPN, Silicon
Q1901	EP15X218	NPN, Silicon

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon

COILS & TRANSFORMER

REF. NO	PART NO	DESCRIPTION
	EP36X451	COIL-Degaussing (2 Used)
	EP42X8	CONVERGENCE ASM.
	EP76X33	YOKE
L50	ES36X82	CHOKE-220uh, 10%

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-75 to 300 ohm (Antenna)
	EP2X553	BRACKET-CRT Corner Mounting, Metal
	EP2X544	BRACKET-Ckt. Bd. Support, Plastic
	EP2X543	BRACKET-H.V.T. Brace, Plastic
	EP2X539	BRACKET-H.V.T. Support, Plastic
	EP2X542	BRACKET-VIR Board Mounting, Plastic
	EP8X97	CABLE-Coaxial, VHF to UHF
	EP8X60	CABLE-Antenna Bracket To Tuner
	EP8X124	CABLE-ET91 to UHF & KMP To UHF
	EP2X90	CLAMP-Yoke & Conv. Retainer
RL1	EP8X93	CONNECTOR-5 Pos.
RL2	EP8X93	CONNECTOR-5 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL6	EP8X66	CONNECTOR-7 Pos.

RL7	EP8X68	CONNECTOR-2 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
RL10	EP8X94	CONNECTOR-3 Pos. (KMP112/LMP112)
PG12	EP8X30	CONNECTOR-1 Pin
RL16A	EP8X66	CONNECTOR-7 Pos.

RL17	EP8X90	CONNECTOR-5 Pos.
RL18	EP8X71	CONNECTOR-6 Pos.
RL28	EP8X42	CONNECTOR-4 Pins
RL59	EP8X43	CONNECTOR-2 Pins
PG250	EP8X43	CONNECTOR-2 Pins
	EP66X19	CORD-AC Power, Polarized, Wired In-Type
	EP3X41	CUSHION-Yoke Wedge
	EP92X101	FRAME-Front & Sides, For Main Board Support, Plastic
	EP92X102	FRAME-Rear Support, For Main Board, Plastic
	EP34X41	SOCKET-Q100
	EP90X3	Wire Tie

MAIN CIRCUIT BOARD PC-A 25"

CAPACITORS

REF. NO	PART NO	DESCRIPTION
C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C103	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C104	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C105	EP31X138	.47uf, 20%, 50V, Elect.
C106	EP31X159	470pf, +50-10%, 16V, Elect.
C107	EP18X187	27pf, 5%, 50V, Cer. Disc
C108	EP18X191	68pf, 5%, 50V, Cer. Disc
C109	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C110	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
C112	EP18X180	820pf, 10%, 50V, SHiK, Cer. Disc
C113	EP22X32	.01uf, 10%, 50V, SHiK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, Cer. Disc
C115	EP18X101	13pf, 5%, 50V, NPO, Cer. Disc +
C116	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C117	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C118	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C119	EP31X11	4.7uf, 20%, 35V, Elect.
C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
C121	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C124	EP18X186	22pf, 10%, 50V, NPO, Cer. Disc
C125	EP31X45	47uf, 20%, 10V, Elect.
C126	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C127	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C135	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C136	EP18X220	1000pf, 10%, 500V, Cer. Disc
C137	EP18X220	1000pf, 10%, 500V, Cer. Disc
C139	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C140	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc +
C142	EP18X259	1000pf, 20%, 500V, Cer. Disc
C180	EP18X189	47pf, 5%, 50V, Cer. Disc
C182	ES18X82	47pf, 5%, 50V, Cer. Disc
C183	EP25X87	.047uf, 10%, 50V, Polyester
C184	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C185	EP31X149	10uf, 20%, 35V, Elect.
C186	EP25X130	.022uf, 10%, 50V, Polyester
C187	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C188	EP25X146	.033uf, 10%, 200V, Mylar
C189	EP31X149	10uf, 20%, 35V, Elect.
C190	EP31X149	10uf, 20%, 35V, Elect.
C191	EP18X170	.015uf, 10%, 25V, Cer. Disc
C192	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C193	EP18X192	150pf, 5%, 50V, NPO, Cer. Disc
C194	EP31X152	2.2uf, +50-20%, 250V, Elect.
C195	EP18X182	5.6pf, 10%, 50V, Cer. Disc
C196	EP31X153	22uf, +50-10%, 160V, Elect.
C197	EP31X11	4.7uf, 20%, 35V, Elect.
C198	EP31X149	10uf, 20%, 35V, Elect.

C199	EP18X169	.01uf, 30%, 25V, Cer. Disc
C200	EP18X212	1500pf, 10%, 50V, Cer. Disc
C202	EP31X149	10uf, 10%, 35V, Elect.
C204	EP18X169	.01uf, 30%, 25V, Cer. Disc
C205	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C206	EP31X44	22uf, 20%, 25V, Elect.
C208	EP18X167	.047uf, 20%, 50V, HiK, Cer. Disc
C210	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C216	EP31X149	10uf, 10%, 35V, Elect.
C218	EP31X78	1uf, 20%, 50V, Elect.
C234	EP31X59	470uf, 10%, 25V, Elect.
C236	EP18X169	.01uf, 30%, 25V, Elect.
C240	ES18X56	18pf, 10%, 500V, Cer. Disc
C244	EP31X150	10uf, 20%, 35V, Elect.
C250	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C256	EP31X44	22uf, 20%, 25V, Elect.
C300	EW31X116	33uf, +50-20%, 10V, Elect.
C302	EP31X49	1uf, 10%, 16V, Elect.
C306	EP18X122	82pf, 5%, 50V, Cer. Disc
C308	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C312	EP18X198	2200pf, 30%, 25V, NPO, Cer. Disc
C314	EP18X202	220pf, 10%, 50V, NPO, Cer. Disc
C316	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C320	EP18X219	30pf, 5%, 50V, Cer. Disc
C322	EP18X187	27pf, 5%, 50V, Cer. Disc
C326	EP25X124	.033uf, 20%, 50V, Polyester
C328	EP31X149	10uf, 20%, 35V, Elect.
C330	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
C334	EP18X194	100pf, 5%, 50V, Cer. Disc
C336	EP31X78	1uf, 20%, 50V, Elect.
C350	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C352	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C354	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C370	EP25X87	.047uf, 20%, 50V, Polyester
C372	EP18X223	180pf, 10%, 50V, HiK, Cer. Disc
C373	EP18X169	.01uf, 30%, 25V, NPO, Cer. Disc
C390	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
C391	EP31X78	1uf, 20%, 50V, Elect.
C392	EP31X149	10uf, 20%, 35V, Elect.
C393	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
C394	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
C395	EP31X78	1uf, 20%, 50V, Elect.
C501	EP31X45	47uf, 20%, 16V, Elect.
C503	EP25X149	5600pf, 5%, 100V, Polypropylene
C505	ES31X34	2.2uf, 20%, 16V, Elect.
C505	EP31X49	1uf, 10%, 16V, Elect. +
C506	EP25X150	6800pf, 10%, 50V, Polyester
C507	EP25X87	.047uf, 10%, 50V, Polyester
C509	EP25X127	.015uf, 10%, 50V, Polyester
C512	EP25X95	.22uf, 10%, 50V, Polyester
C513	EP31X149	10uf, 20%, 35V, Elect.
C514	EP18X217	330pf, 10%, 50V, SHiK, Cer. Disc
C515	EP25X94	5600pf, 10%, 50V, Polyester
C517	EP25X87	.047uf, 10%, 50V, Polyester
C521	EP25X160	8200pf, 10%, 50V, Polyester
C523	EP25X77	.1uf, 20%, 50V, Polyester
C601	EP25X124	.033uf, 10%, 50V, Polyester
C603	EP31X149	10uf, 20%, 35V, Elect.
C605	EP18X229	6800pf, 10%, 50V, SHiK, Cer. Disc
C607	EP31X141	220uf, 20%, 16V, Elect.
C609	EP31X78	1uf, 20%, 50V, Elect.
C611	EP25X130	.022uf, 10%, 50V, Polyester
C613	EP18X223	180pf, 5%, 50V, NPO, Cer. Disc
C614	EP31X11	4.7uf, 20%, 50V, Elect.
C615	EP31X151	2.7uf, 20%, 160V, Elect.
C617	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C619	EP31X154	470pf, 20%, 10V, Elect.
C621	EP31X140	100uf, +50-10%, 50V, Elect.
C623	EP31X49	1uf, 10%, 16V, Elect.
C701	EP25X110	3300pf, 10%, 200V, Mylar
C703	EP18X217	330pf, 10%, 500V, SHiK, Cer. Disc
C705	EP25X148	.027uf, 10%, 100V, Polyester
C706	EP25X146	.033uf, 20%, 200V, Mylar
C900	EP25X147	.1uf, 10%, 125V, Polyester
C901	EP18X220	1000pf, 20%, 1KV, Cer. Disc
C902	EP31X165	680uf, +50-20%, 180V, Elect.
C902	EP31X158	330uf, +50-20%, 180V, Elect. +

+ Indicates part may appear in early production boards

C903	EP18X220	1000pf, 20%, 1KV, Cer.
C904	EP31X109	100uf, 10%, 160V, Elec
C905	EP18X220	1000pf, 20%, 1KV, Cer.
C906	EP31X156	10uf, +50-20%, 180V, E
C907	EP18X220	1000pf, 20%, 1KV, Cer.
C921	EU22X76	1000pf, 20%, 500V, HiK
C923	ET22X151	470pf, 20%, 1KV, HiK,
C924	EP18X264	4700pf, 20%, 500V, HiK
C925	EP31X159	470pf, +50-10%, 25V, E
C927	EP18X268	150pf, 20%, 1KV, HiK,
C929	EP18X81	1000pf, 20%, 500V, Cer
C931	EP31X157	220uf, +50-10%, 100V, I
C933	EP25X89	.047uf, 20%, 300V, Myla
C935	ET22X151	470pf, 20%, 1KV, HiK,
C937	EP18X81	1000pf, 20%, 500V, Cer.
C939	EP31X155	4.7uf, +50-20%, 160V, I
C941	EP18X132	8200pf, 10%, 500V, Cer.
C943	EP31X45	47uf, 20%, 16V, Elect.
C945	EU22X212	6800pf, 20%, 500V, Cer.
C947	EP18X118	.1uf, 10%, 25V, Cer. Di
C953	EP25X161	1800pf, 10%, 200V, Myla
C955	EP20X20	.047uf, 10%, 200V, Myla
C957	EP18X81	1000pf, 20%, 500V, Cer.
C959	EP18X266	270pf, 20%, 1KV, SHiK,
C961	EP31X35	10uf, 10%, 35V, Elect.
C961	EP31X141	220uf, 10%, 10V,, Elect
C965	ET22X151	470pf, 20%, 1KV, Cer. E
C967	EP31X78	1uf, 20%, 50V, Elect.
C990	ET22X151	470pf, 20%, 1KV, HiK, C
C991	EP31X160	3.3uf, +50-10%, 160V, E
C993	EP31X55	100uf, 20%, 10V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X187	100 ohm, 5%, 1/8W, Carb
R102	EP14X180	5.6K ohm, 5%, 1/8W, Car
R103	ES14X62	1.5K ohm, 5%, 1/8W, Car
R104	ES14X57	390 ohm, 5%, 1/8W, Car
R105	ES14X56	33 ohm, 5%, 1/8W, Carbo
R107	ES14X59	560 ohm, 5%, 1/8W, Carbo
R108	EP14X133	470K ohm, 5%, 1/8W, Car
R109	ES14X58	470 ohm, 5%, 1/8W, Carbo
R111	EP14X252	3.9K ohm, 5%, 1/8W, Car
R112	EP14X303	470 ohm, 5%, 1/8W, Carbo
R113	EP14X284	1K ohm, 5%, 1/8W, Carbo
R114	EP14X303	470 ohm, 5%, 1/8W, Carbo
R115	EP14X252	3.9K ohm, 5%, 1/8W, Car
R117	Common	220 ohm, 5%, 1/8W, Carbo
R118	Common	9.1K ohm, 5%, 1/8W, Car
R119	EP14X119	68K ohm, 5%, 1/8W, Carbo
R121	EP14X125	47K ohm, 5%, 1/8W, Carbo
R122	EP14X182	68 ohm, 5%, 1/8W, Carbo
R123	EP14X304	2.7K ohm, 5%, 1/8W, Carl
R125	EP14X24?	2.2K ohm, 5%, 1/8W, Carl
R126	EP14X184	2.4K ohm, 5%, 1/8W, Carl
R128	EP14X185	120K ohm, 5%, 1/8W, Carl
R129	ES14X59	560 ohm, 5%, 1/8W, Carbo
R130	EP14X304	2.7K ohm, 5%, 1/8W, Carl
R131	Common	5.1K ohm, 5%, 1/8W, Carl
R133	ES14X71	1K ohm, 5%, 1/8W, Carbor
R134	Common	120 ohm, 5%, 1/4W, Carbo
R135	Common	220 ohm, 5%, 1/4W, Carbo
R136	ES14X70	100 ohm, 5%, 1/8W, Carbo
R180	ES14X71	1K ohm, 5%, 1/8W, Carbor
R181	EP14X243	2.2K ohm, 5%, 1/8W, Carl
R182	EP14X284	1K ohm, 5%, 1/8W, Carbor
R183	EP14X284	1K ohm, 5%, 1/8W, Carbor
R186	Common	300 ohm, 5%, 1/8W, Carbo
R188	EP14X105	100K ohm, 5%, 1/8W, Carl
R190	Common	62K ohm, 5%, 1/8W, Carbo
R191	Common	1.6K ohm, 5%, 1/8W, Carl
R192	EP14X329	200 ohm, 5%, 1/2W, Flame
R193	Common	36K ohm, 5%, 1/4W, Carbo
R194	EP14X103	10K ohm, 5%, 1/8W, Carbo
R195	EP14X180	5.6K ohm, 5%, 1/8W, Carb
R198	EP14X271	8.2K ohm, 5%, 1/8W, Carb
R200	ES14X69	56 ohm, 5%, 1/8W, Carbon
R202	EP14X285	20K ohm, 5%, 1/8W, Carbo
R204	Common	1.2K ohm, 5%, 1/8W, Carb

LMP112 ELECTRONIC TUNING SYSTEM REPLACEMENT PARTS LIST

GENERAL ELECTRIC 25"								
LMP112 TUNING SYSTEM								
COIL & TRANSFORMER								
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%	C601	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc	R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
PT01	EP88X43	TRANSFORMER-Power	C602	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc	R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
MISCELLANEOUS			C603	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc	R609	EP14X303	22K ohm, 5%, 1/8W, Carbon
REF. NO.	PART NO.	DESCRIPTION	C604	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc	R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
RL1	EP8X125	CABLE-LMP112 Board To Tuner	C605	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc	R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
RL7	EP8X93	CONNECTOR-5 Pos.	C606	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc	R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
RL9	EP8X68	CONNECTOR-2 Pos.	C607	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc	R613	Common	1.2K ohm, 5%, 1/8W, Carbon
	EP8X90	CONNECTOR-3 Pos.	C608	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc	R614	Common	1.2K ohm, 5%, 1/8W, Carbon
	EP62X161	KEYBOARD-On/Off, Vol., Channel Sel.	C609	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc	R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
	EP93X413	LMP112 CONTROL BOARD-Complete	C610	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc	R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
	EP62X164	REMOTE CONTROL TRANSMITTER ASM.	C611	EP31X150	10uf, 20%, 50V, Elect.	R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
	EP93X417	REMOTE CONTROL RECEIVER	C612	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc	R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
★	EP93X415	UHF/VHF TUNER	C613	EP31X150	10uf, 20%, 50V, Elect.	R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
★	EP41X130	RELAY	C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc	R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
★	EP93X394	RELAY CIRCUIT BOARD-Bare	C615	EP18X206	.022uf, +80-20%, 50V, HiK, Cer Disc	R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
LMP112 CONTROL BOARD ASM			C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc	R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
EP93X413			C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc	R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
CAPACITORS			C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc	R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
REF. NO.	PART NO.	DESCRIPTION	C621	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc	R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
C100	EP31X162	100uf, 20%, 25V, Elect.	C622	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc	R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
C101	EP31X162	100uf, 20%, 25V, Elect.	C623	EP31X150	10uf, 20%, 50V, Elect.	R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
C102	EP31X163	47uf, 20%, 25V, Elect.	C624	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc	R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
C103	EP31X150	10uf, 20%, 50V, Elect.	C625	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc	R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
C104	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc	C626	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc	R630	EP14X193	47K ohm, 5%, 1/8W, Carbon
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc	C627	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc	R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
C500	EP18X262	.01uf, 10%, 50V, SHiK, Cer. Disc	RESISTORS			R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc	REF. NO.	PART NO.	DESCRIPTION	R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc	R101	Common	3.9K ohm, 5%, 1/8W, Carbon	R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc	R102	ES14X61	820 ohm, 5%, 1/4W, Carbon	R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
C504	EP18X270	390pf, 5%, 50V, NPO, Cer. Disc	R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon	R637	EP14X103	10K ohm, 5%, 1/8W, Carbon
C505	EP18X270	390pf, 5%, 50V, NPO, Cer. Disc	R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide	R638	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
C506	EP18X262	.01uf, 10%, 50V, SHiK, Cer. Disc	R105	EP14X182	68 ohm, 10%, 1/4W, Carbon	R639	EP14X303	220K ohm, 5%, 1/8W, Carbon
C508	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc	R106	ES14X51	47 ohm, 5%, 1/8W, Carbon	R641	Common	75K ohm, 5%, 1/8W, Carbon
C509	EP18X262	.01uf, 10%, 50V, SHiK, Cer. Disc	R500	EP14X284	1K ohm, 5%, 1/8W, Carbon	R642	EP14X133	470K ohm, 5%, 1/8W, Carbon
C510	EP31X39	2.2uf, 20%, 25V, Bi-Polar, Elect.	R501	EP14X284	1K ohm, 5%, 1/8W, Carbon	R643	EP14X284	10K ohm, 5%, 1/8W, Carbon
C511	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc	R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon	R644	ES14X70	100 ohm, 5%, 1/8W, Carbon
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc	R503	EP14X284	1K ohm, 5%, 1/8W, Carbon	R645	EP14X271	33K ohm, 5%, 1/8W, Carbon
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc	R504	Common	4.3 meg, 5%, 1/4W, Carbon	R648	Common	4.3K ohm, 5%, 1/8W, Carbon
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc	R507	EP14X271	33K ohm, 5%, 1/8W, Carbon	R649	EP14X193	47K ohm, 5%, 1/8W, Carbon
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc	R508	Common	1.5 meg ohm, 10%, 1/4W, Carbon	R650	EP14X238	620 ohm, 5%, 1/8W, Carbon
C516	EP18X262	.01uf, 10%, 50V, SHiK, Cer. Disc	R509	EP14X271	33K ohm, 5%, 1/8W, Carbon	R651	EP14X238	620 ohm, 5%, 1/8W, Carbon
C600	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc	R511	ES14X62	1.5K ohm, 5%, 1/8W, Carbon	R652	EP14X238	620 ohm, 5%, 1/8W, Carbon
			R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon	R653	EP14X238	620 ohm, 5%, 1/8W, Carbon
			R513	EP14X284	10K ohm, 5%, 1/8W, Carbon	R654	EP14X238	620 ohm, 5%, 1/8W, Carbon
			R514	EP14X284	10K ohm, 5%, 1/8W, Carbon	R655	EP14X238	620 ohm, 5%, 1/8W, Carbon
			R515	ES14X71	1K ohm, 5%, 1/8W, Carbon	R656	EP14X238	620 ohm, 5%, 1/8W, Carbon
			R516	ES14X70	100 ohm, 5%, 1/8W, Carbon	R657	EP14X238	620 ohm, 5%, 1/8W, Carbon
			R517	Common	200K ohm, 5%, 1/8W, Carbon	R658	EP14X238	620 ohm, 5%, 1/8W, Carbon
			R601	EP14X309	6.8K ohm, 5%, 1/8W, Carbon	R659	EP14X238	620 ohm, 5%, 1/8W, Carbon
			R602	EP14X271	16K ohm, 5%, 1/8W, Carbon	R660	EP14X238	620 ohm, 5%, 1/8W, Carbon
			R603	EP14X284	10K ohm, 5%, 1/8W, Carbon	R661	EP14X238	620 ohm, 5%, 1/8W, Carbon
			R604	EP14X285	15K ohm, 5%, 1/8W, Carbon	R662	EP14X238	620 ohm, 5%, 1/8W, Carbon
			R605	Common	1.2K ohm, 5%, 1/8W, Carbon	R663	EP14X238	620 ohm, 5%, 1/8W, Carbon
			R606	EP14X285	15K ohm, 5%, 1/8W, Carbon	R664	EP14X284	10K ohm, 5%, 1/8W, Carbon
						R665	EP14X284	10K ohm, 5%, 1/8W, Carbon
						R666	EP14X284	10K ohm, 5%, 1/8W, Carbon
						R667	EP14X193	47K ohm, 5%, 1/8W, Carbon

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R668	EP14X193	47K ohm, 5%, 1/8W, Carbon
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon
R670	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon
R677	Common	43K ohm, 5%, 1/8W, Carbon
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon
R687	EP14X104	22K ohm, 5%, 1/4W, Carbon
R688	EP14X103	10K ohm, 5%, 1/8W, Carbon
R689	EP14X284	10K ohm, 5%, 1/8W, Carbon
R690	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R691	ES14X70	100 ohm, 5%, 1/8W, Carbon
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon
R693	Common	220 ohm, 5%, 1/8W, Carbon
R694	ES14X70	100 ohm, 5%, 1/8W, Carbon
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon
R802	EP14X284	10K ohm, 5%, 1/8W, Carbon
R803	EP14X284	10K ohm, 5%, 1/8W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DISCRIPTION
R640	EP49X476	100K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DISCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X223	Microcomputer
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DISCRIPTION
Q101	EP15X87	NPN, Silicon
Q502	EP15X89	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q504	EP15X87	NPN, Silicon
Q601	EP15X48	PNP, Silicon
Q602	EP15X48	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon

Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DISCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X16	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

REF. NO.	PART NO.	DISCRIPTION
L500	EP36X136	CHOKE-15uh, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%

LMPL12 REMOTE TRANSMITTER

EP62X164

TRANSISTORS

REF. NO.	PART NO.	DISCRIPTION
Q901	EP15X88	NPN, Silicon
Q902	EP15X88	NPN, Silicon

DIODES

REF. NO.	PART NO.	DISCRIPTION
Y901	EP16X33	Infrared
Y902	EP16X33	Infrared
Y904	ES16X27	Silicon

MISCELLANEOUS

PART NO.	DESCRIPTION
Common	BATTERY-1.5V, AAA
EP47X55	BUTTON-On/Off, Mute/Vol. Up & Down Channel Up & Down/Add/Clear
EP47X57	CAP-Program Switch
EP4X370	CASE-Top, Bottom, Battery Cover, W/Medallion
EP4X371	COVER-Battery, Plastic
EP93X416	MAIN CIRCUIT BOARD-Complete (No Parts Available For Repair)

REMOTE RECEIVER CIRCUIT BOARD

EP93X417

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C701	EP31X149	10uf, 20%, 35V, Elect.
C702	EP31X149	10uf, 20%, 35V, Elect.
C703	EP31X149	10uf, 20%, 35V, Elect.
C704	EP25X156	3300pf, 5%, 100V, Polypropylene
C705	EP31X163	47uf, 20%, 16V, Elect.
C706	EP25X157	.033uf, 20%, 50V, Polyester
C707	ES22X6	1000pf, 20%, 50V, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R701	EP14X284	1K ohm, 5%, 1/8W, Carbon
R702	Common	150K ohm, 5%, 1/8W, Carbon
R703	Common	43 ohm, 5%, 1/8W, Carbon
R704	EP14X303	100K ohm, 5%, 1/8W, Carbon
R705	ES14X70	100 ohm, 5%, 1/8W, Carbon

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC701	EP84X227	Infrared Preamplifier

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y701	EP16X135	Silicon

COIL

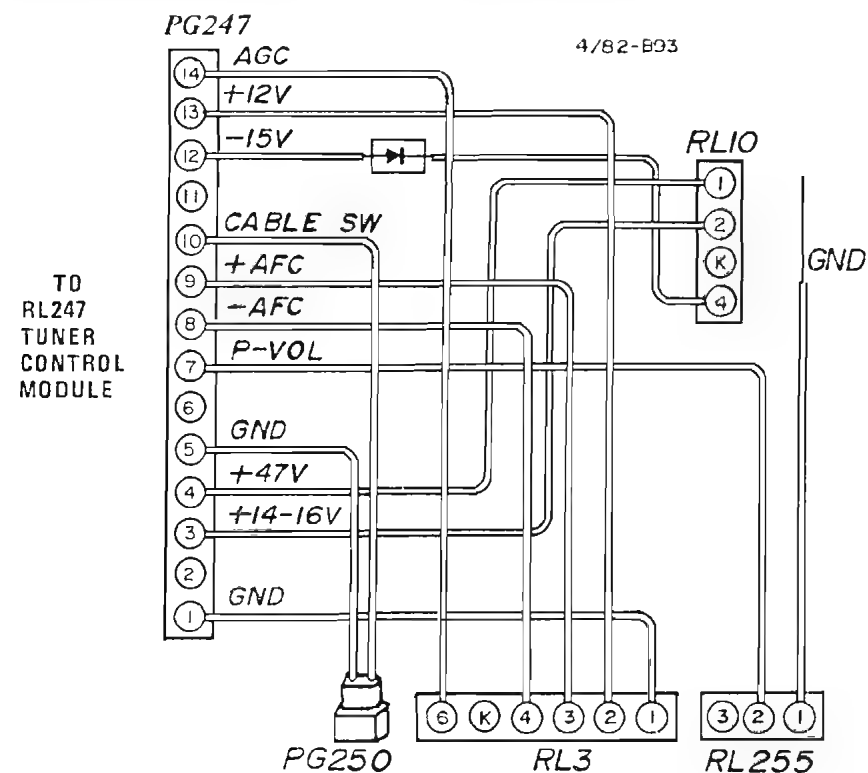
REF. NO.	PART NO.	DESCRIPTION
L701	EP36X447	Remote Control

MISCELLANEOUS

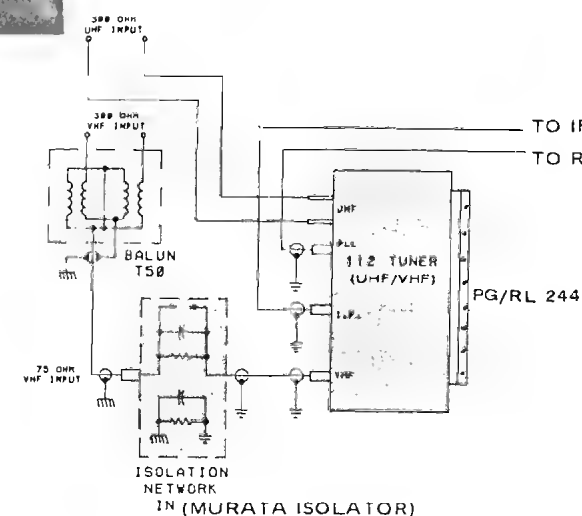
REF. NO.	PART NO.	DESCRIPTION
RL245	EP8X67	CONNECTOR-4 Pos.
	EP2X552	LENS-Remote Control

KMP112 ELECTRONIC TUNING SYSTEM

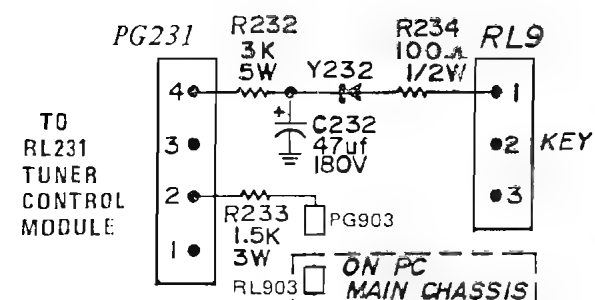
KMP112 ELECTRONIC TUNING SYSTEM SCHEMATIC



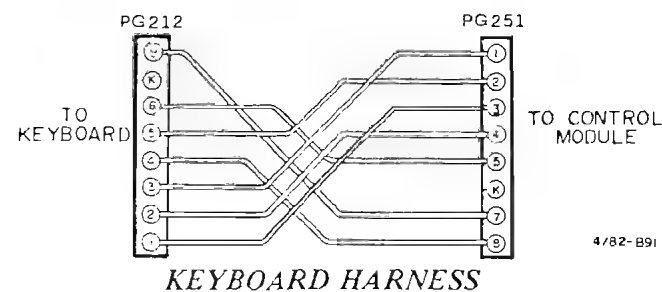
PC CHASSIS INTERFACE CONNECTIONS TO KMP112 TUNER CONTROL MODULE



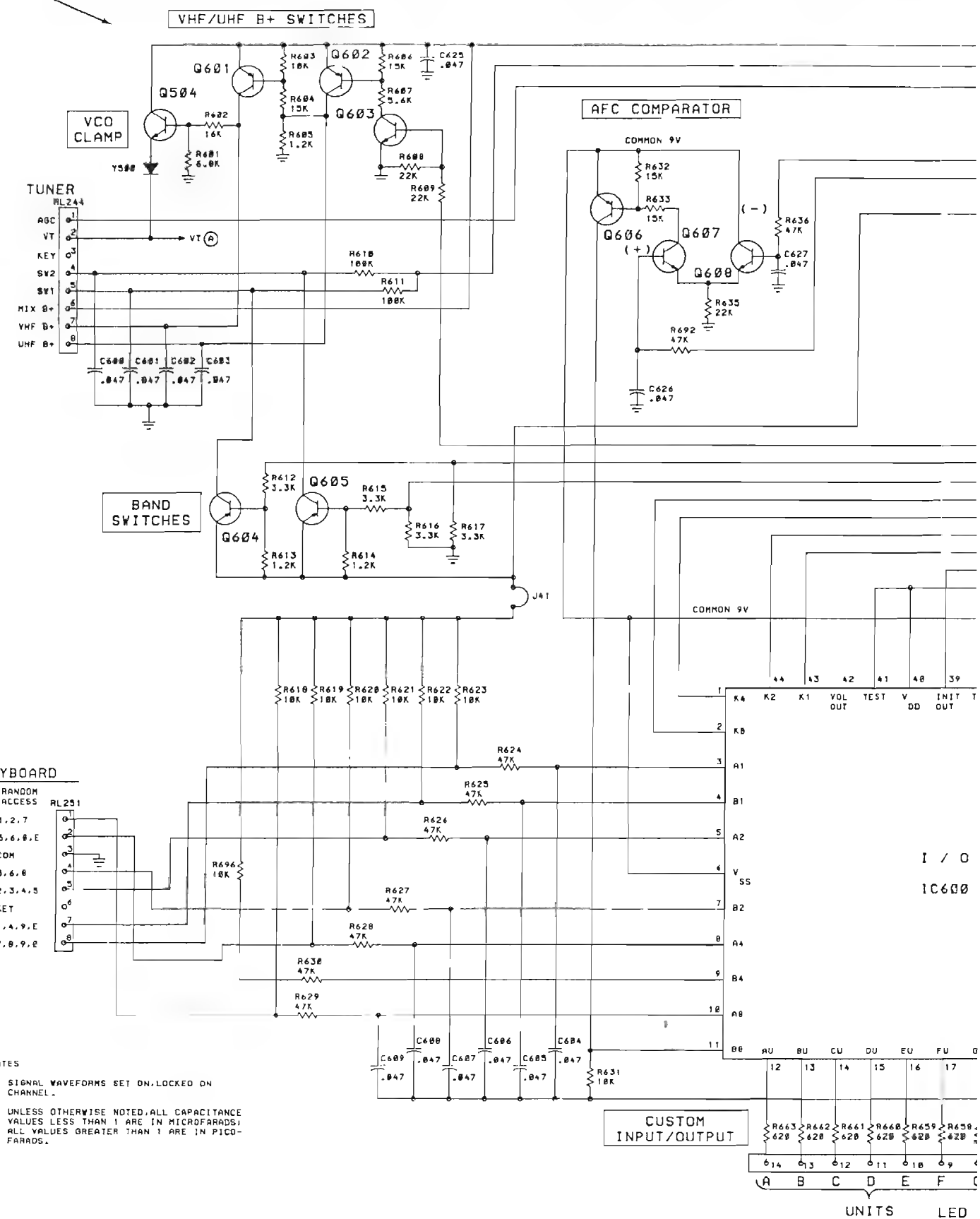
KEYBOARD SCHEMATIC DIAGRAM



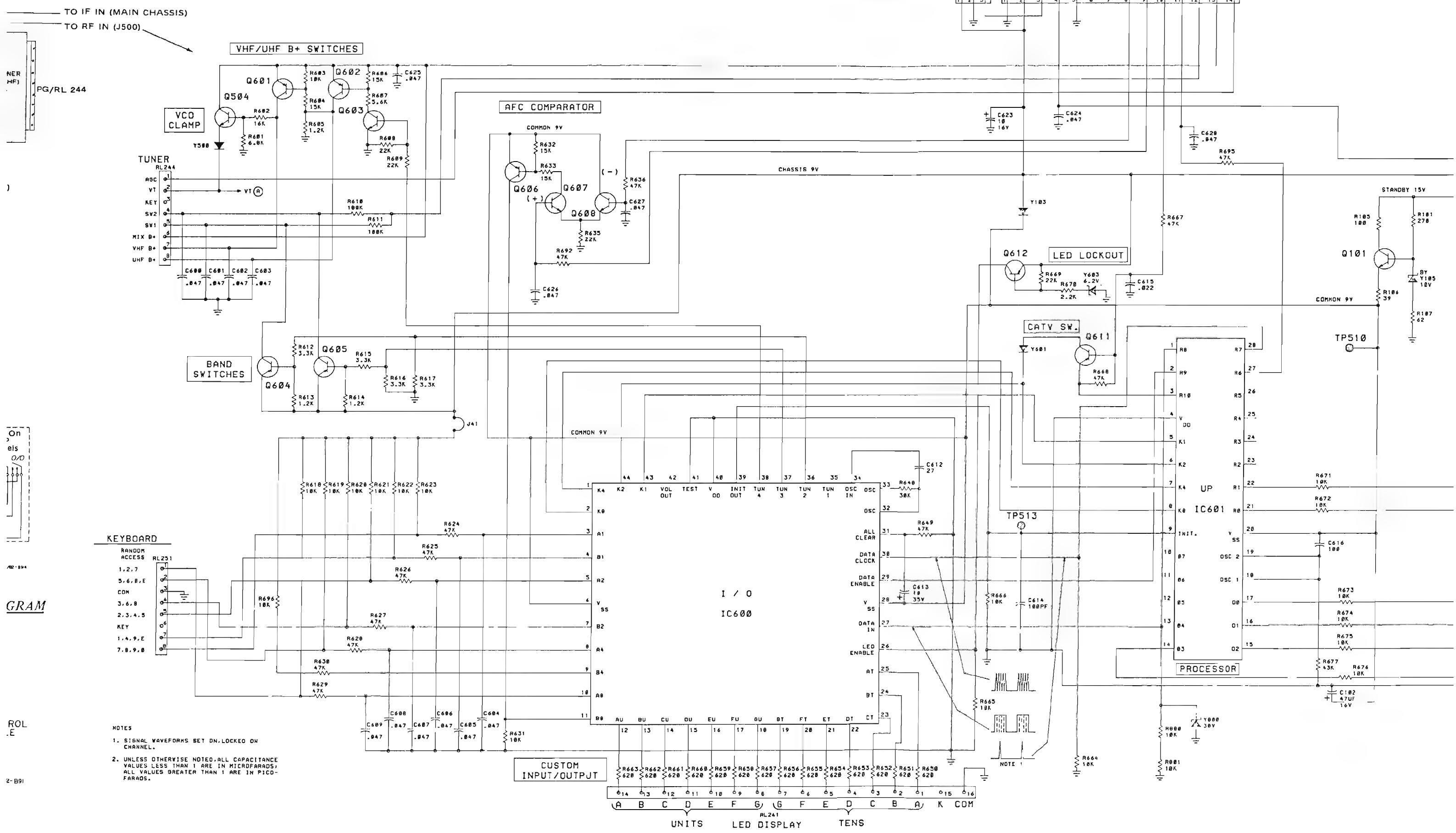
STANDBY POWER SUPPLY (PC CHASSIS)



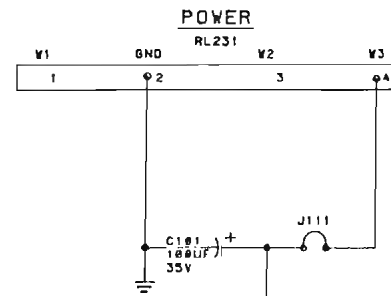
KEYBOARD HARNESS



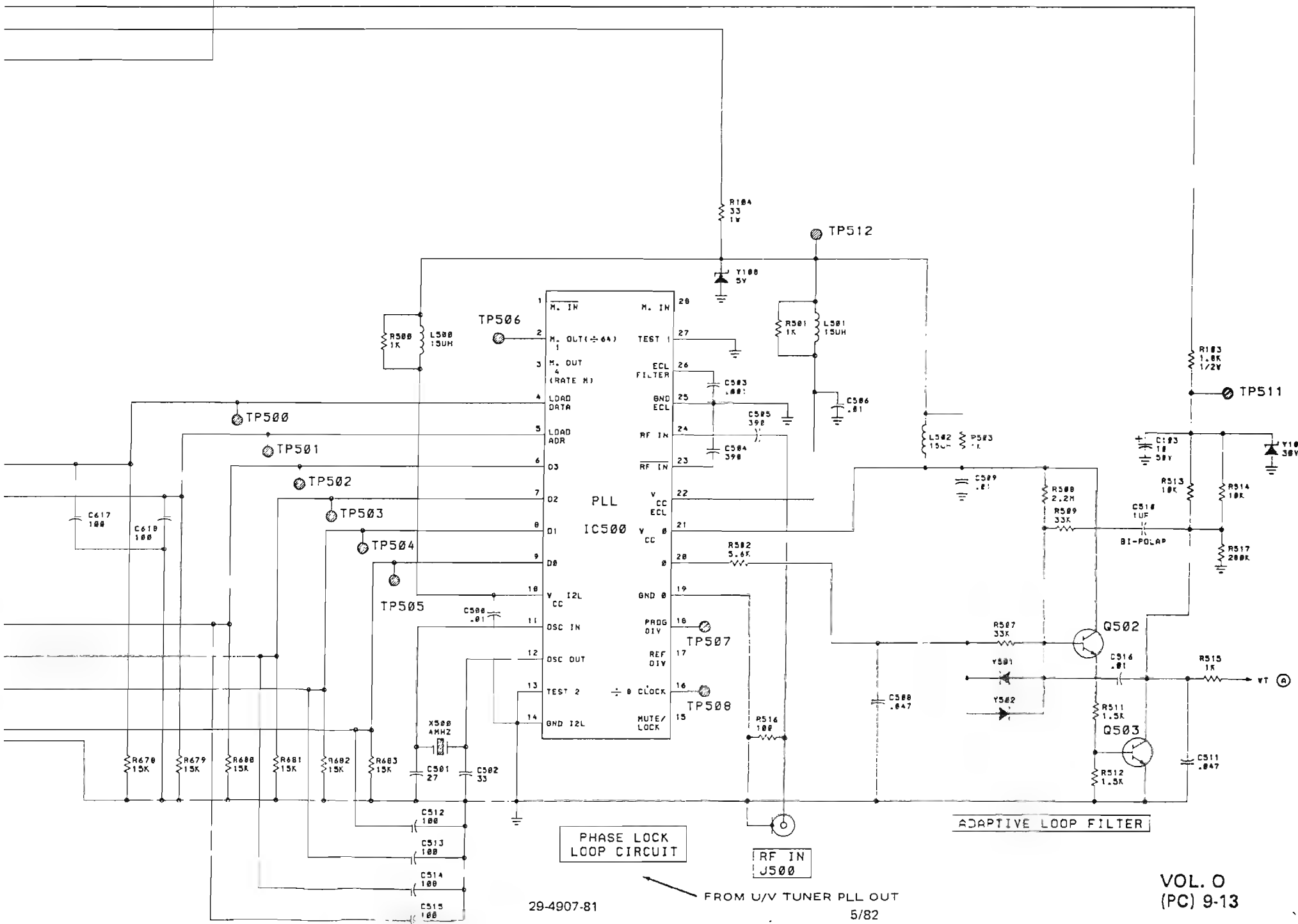
KMP112 ELECTRONIC TUNING SYSTEM SCHEMATIC DIAGRAM



25PC CHASSIS



PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.



KMP112 ELECTRONIC TUNING SYSTEM REPLACEMENT PARTS LIST

GENERAL ELECTRIC 25"

KMP112 TUNING SYSTEM

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C232	EP31X147	47uf, +50-10%, 180V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X125	CABLE-KMP Board To Tuner
	EP41X135	CHANNEL NUMBER DISPLAY READOUT
RL1	EP8X93	CONNECTOR-5 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
RL10	EP8X94	CONNECTOR-4 Pos.
RL212	EP8X92	CONNECTOR-8 Pos.
RL250	EP8X43	CONNECTOR-2 Pins
RL251	EP8X92	CONNECTOR-8 Pos.
	EP93X185	KEYBOARD-Channel Select
	EP93X414	KMP112 CONTROL BOARD-Complete
	* EP93X415	UHF/VHF TUNER

KMP112 CONTROL BOARD ASM

EP93X414

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP31X162	100uf, 20%, 25V, Elect.
C102	ES31X31	47uf, 20%, 16V, Elect.
C103	EP31X150	10uf, 20%, 50V, Elect.
C105	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C500	EP18X262	.01uf, 10%, 50V, SHiK, Cer. Disc
C501	EP18X187	27pf, 5%, 50V, NPO, Cer. Disc
C502	EP18X188	33pf, 5%, 50V, N150 Cer. Disc
C503	ES22X6	1000pf, 5%, 50V, NPO, Cer. Disc
C504	EP18X270	390pf, 5%, 50V, NPO, Cer. Disc
C505	EP18X270	390pf, 5%, 50V, NPO, Cer. Disc
C506	EP18X262	.01uf, 10%, 50V, SHiK, Cer. Disc
C508	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C509	EP18X262	.01uf, 10%, 50V, SHiK, Cer. Disc
C510	EP31X164	1uf, 20%, 25V, Bi-Polar, Elect.
C511	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C512	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C513	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C514	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C515	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C516	EP18X262	.01uf, 10%, 50V, SHiK, Cer. Disc
C600	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C601	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C602	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C603	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C604	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C605	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C606	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C607	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C608	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C609	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C612	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C613	EP31X149	10uf, 20%, 35V, Elect.
C614	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C615	EP18X206	.022uf, +80-20%, 50V, HiK, Cer Disc
C616	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C617	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C618	EP18X269	100pf, 10%, 50V, NPO, Cer. Disc
C624	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C625	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C626	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C627	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc
C628	EP18X167	.047uf, +80-20%, 50V, HiK, Cer Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	Common	270 ohm, 5%, 1/8W, Carbon
R103	EP14X131	1.8K ohm, 5%, 1/2W, Carbon

R104	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R105	ES14X70	100 ohm, 5%, 1/8W, Carbon
R106	ES14X51	47 ohm, 5%, 1/8W, Carbon
R107	Common	62 ohm, 5%, 1/8W, Carbon
R500	EP14X284	1K ohm, 5%, 1/8W, Carbon
R501	EP14X284	1K ohm, 5%, 1/8W, Carbon
R502	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R503	EP14X284	1K ohm, 5%, 1/8W, Carbon
R504	Common	4.3 meg, 5%, 1/4W, Carbon
R507	EP14X271	33K ohm, 5%, 1/8W, Carbon
R508	Common	2.2 meg ohm, 10%, 1/4W, Carbo
R509	EP14X271	33K ohm, 5%, 1/8W, Carbon
R511	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R512	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R513	EP14X284	10K ohm, 5%, 1/8W, Carbon
R514	EP14X284	10K ohm, 5%, 1/8W, Carbon
R515	EP14X284	1K ohm, 5%, 1/8W, Carbon
R516	ES14X70	100 ohm, 5%, 1/8W, Carbon
R517	Common	200K ohm, 5%, 1/8W, Carbon
R601	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
R602	EP14X271	16K ohm, 5%, 1/8W, Carbon
R603	EP14X284	10K ohm, 5%, 1/8W, Carbon
R604	EP14X285	15K ohm, 5%, 1/8W, Carbon
R605	Common	1.2K ohm, 5%, 1/8W, Carbon
R606	EP14X285	15K ohm, 5%, 1/8W, Carbon
R607	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R608	EP14X303	22K ohm, 5%, 1/8W, Carbon
R609	EP14X303	22K ohm, 5%, 1/8W, Carbon
R610	EP14X303	100K ohm, 5%, 1/8W, Carbon
R611	EP14X303	100K ohm, 5%, 1/8W, Carbon
R612	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R613	Common	1.2K ohm, 5%, 1/8W, Carbon
R614	Common	1.2K ohm, 5%, 1/8W, Carbon
R615	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R616	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R617	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
R618	EP14X284	10K ohm, 5%, 1/8W, Carbon
R619	EP14X284	10K ohm, 5%, 1/8W, Carbon
R620	EP14X284	10K ohm, 5%, 1/8W, Carbon
R621	EP14X284	10K ohm, 5%, 1/8W, Carbon
R622	EP14X284	10K ohm, 5%, 1/8W, Carbon
R623	EP14X284	10K ohm, 5%, 1/8W, Carbon
R624	EP14X193	47K ohm, 5%, 1/8W, Carbon
R625	EP14X193	47K ohm, 5%, 1/8W, Carbon
R626	EP14X193	47K ohm, 5%, 1/8W, Carbon
R627	EP14X193	47K ohm, 5%, 1/8W, Carbon
R628	EP14X193	47K ohm, 5%, 1/8W, Carbon
R629	EP14X193	47K ohm, 5%, 1/8W, Carbon
R630	EP14X193	47K ohm, 5%, 1/8W, Carbon
R631	EP14X284	10K ohm, 5%, 1/8W, Carbon
R632	EP14X285	15K ohm, 5%, 1/8W, Carbon
R633	EP14X285	15K ohm, 5%, 1/8W, Carbon
R635	EP14X303	22K ohm, 5%, 1/8W, Carbon
R636	EP14X193	47K ohm, 5%, 1/8W, Carbon
R648	Common	4.3K ohm, 5%, 1/8W, Carbon

25PC CHASSIS

General: In order to troubleshoot the KMP 112 Ch. electronic tuning system more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable.

POWER SUPPLIES

1. Do not unplug, but do check all voltages at RL/PG247.
2. Check RL231, pin 4 for +15V Standby Supply.
3. Check for shorted or loose wires and cables. They are frequently the cause of trouble.

TROUBLESHOOTING ORDER

In order of probability after checking power supplies, wires, cable switch, check:

1. Tuner/Bandswitch transistors
2. Microprocessor (IC601)
3. Keyboard
4. IC600 (I/O) Chip
5. IC500 (PLL CHIP)

CATEGORIZED SYMPTOMS

- Dark Raster (LED Readout Display OK)
Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Lo o. Cable only)
Check Bandswitch Transistors
- No Channel, No Keyboard Operation
Check Microprocessor (IC601)
- No Last Channel Memory when sel. is switched OFF and back ON.
Check Microprocessor (IC601)
- Readout Display OK, but Channels Off-Frequency
Check Bandswitch voltage, is OK, check IC500 (PLL Chip).

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microprocessor.

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O), or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry.

Check the 1F per Main Chassis troubleshooting chart. If OK, PROCEED TO KMP ELECTRONIC TUNING TROUBLESHOOTING FOR POSSIBLE SOLUTION TO THE PROBLEM.

U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels: CH 1=28V, 6=20V, 13=19V, 33=6.5V and B2=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

R649	EP14X193	47K ohm, 5%, 1/8W, Carbon	Q503	EP15X87	NPN, Silicon
R650	EP14X238	620 ohm, 5%, 1/8W, Carbon	Q504	EP15X87	NPN, Silicon
R651	EP14X238	620 ohm, 5%, 1/8W, Carbon	Q601	EP15X48	PNP, Silicon
R652	EP14X238	620 ohm, 5%, 1/8W, Carbon	Q602	EP15X48	PNP, Silicon
R653	EP14X238	620 ohm, 5%, 1/8W, Carbon	Q603	EP15X87	NPN, Silicon
R654	EP14X238	620 ohm, 5%, 1/8W, Carbon	Q604	EP15X48	PNP, Silicon
R655	EP14X238	620 ohm, 5%, 1/8W, Carbon	Q605	EP15X48	PNP, Silicon
R656	EP14X238	620 ohm, 5%, 1/8W, Carbon	Q606	EP15X48	PNP, Silicon
R657	EP14X238	620 ohm, 5%, 1/8W, Carbon	Q607	EP15X88	NPN, Silicon
R658	EP14X238	620 ohm, 5%, 1/8W, Carbon	Q608	EP15X88	NPN, Silicon
R659	EP14X238	620 ohm, 5%, 1/8W, Carbon	Q611	EP15X48	PNP, Silicon
R660	EP14X238	620 ohm, 5%, 1/8W, Carbon	Q612	EP15X48	PNP, Silicon
R661	EP14X238	620 ohm, 5%, 1/8W, Carbon			
R662	EP14X238	620 ohm, 5%, 1/8W, Carbon			
R663	EP14X238	620 ohm, 5%, 1/8W, Carbon			
R664	EP14X284	10K ohm, 5%, 1/8W, Carbon	REF. NO.	PART NO.	DISCRIPTION
R665	EP14X284	10K ohm, 5%, 1/8W, Carbon	Y103	EP57X4	Rectifier
R666	EP14X284	10K ohm, 5%, 1/8W, Carbon	Y105	EP16X155	Zener
R667	EP14X193	47K ohm, 5%, 1/8W, Carbon	Y108	EP16X152	Zener
R668	EP14X193	47K ohm, 5%, 1/8W, Carbon	Y109	EP16X32	Zener
R669	EP14X303	22K ohm, 5%, 1/8W, Carbon	Y500	ES16X27	Silicon
R670	EP14X250	2.2K ohm, 5%, 1/8W, Carbon	Y501	ES16X27	Silicon
R671	EP14X103	10K ohm, 5%, 1/8W, Carbon	Y502	ES16X27	Silicon
R672	EP14X103	10K ohm, 5%, 1/8W, Carbon	Y601	ES16X27	Silicon
R673	EP14X103	10K ohm, 5%, 1/8W, Carbon	Y603	EP16X153	Zener
R674	EP14X103	10K ohm, 5%, 1/8W, Carbon	Y800	EP16X32	Zener
R675	EP14X103	10K ohm, 5%, 1/8W, Carbon			
R676	EP14X103	10K ohm, 5%, 1/8W, Carbon			
R677	Common	43K ohm, 5%, 1/8W, Carbon			
R678	EP14X285	15K ohm, 5%, 1/8W, Carbon	REF. NO.	PART NO.	DISCRIPTION
R679	EP14X285	15K ohm, 5%, 1/8W, Carbon	L500	EP36X136	CHOKE-15uh, 10%
R680	EP14X285	15K ohm, 5%, 1/8W, Carbon	L501	EP36X136	CHOKE-15uh, 10%
R681	EP14X285	15K ohm, 5%, 1/8W, Carbon	L502	EP36X136	CHOKE-15uh, 10%
R682	EP14X285	15K ohm, 5%, 1/8W, Carbon			
R683	EP14X285	15K ohm, 5%, 1/8W, Carbon			
R687	EP14X288	18K ohm, 5%, 1/8W, Carbon			
R692	EP14X193	47K ohm, 5%, 1/8W, Carbon			
R694	EP14X193	47K ohm, 5%, 1/8W, Carbon			
R696	EP14X284	10K ohm, 5%, 1/8W, Carbon			
R800	EP14X284	10K ohm, 5%, 1/8W, Carbon			
R801	EP14X284	10K ohm, 5%, 1/8W, Carbon			

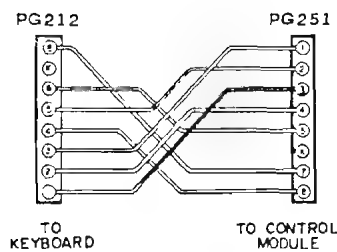
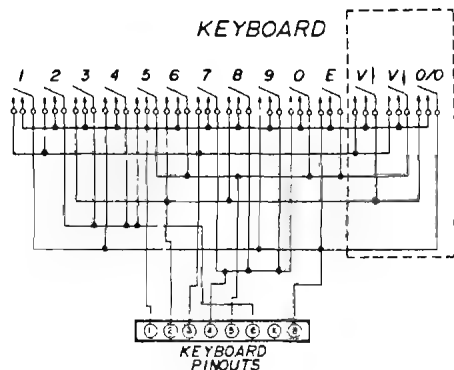
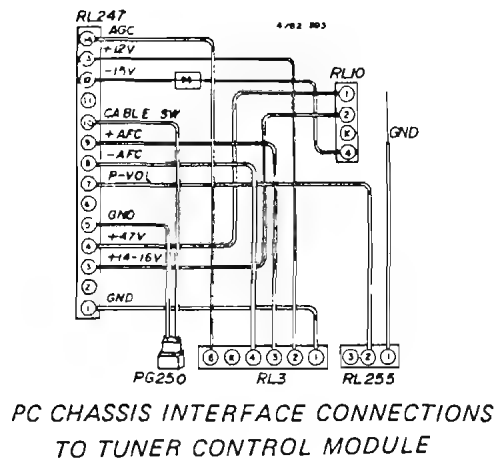
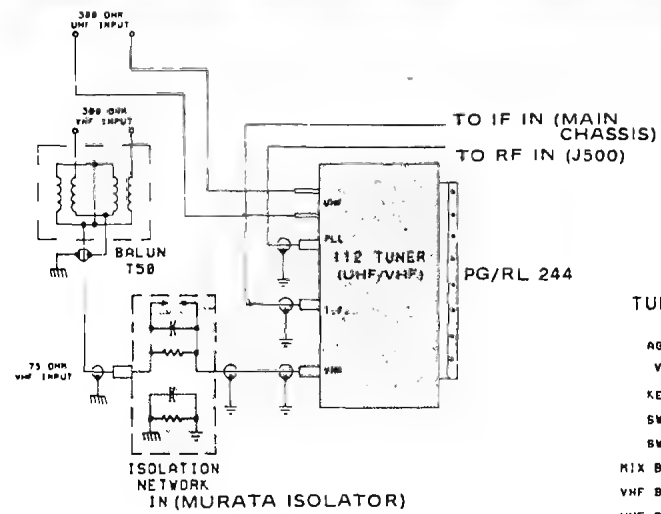
INTEGRATED CIRCUITS

REF. NO.	PART NO.	DISCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC500	EP84X220	PLI/Prescaler
IC600	EP84X222	Custom Interface
IC601	EP84X226	Microcomputer

TRANSISTORS

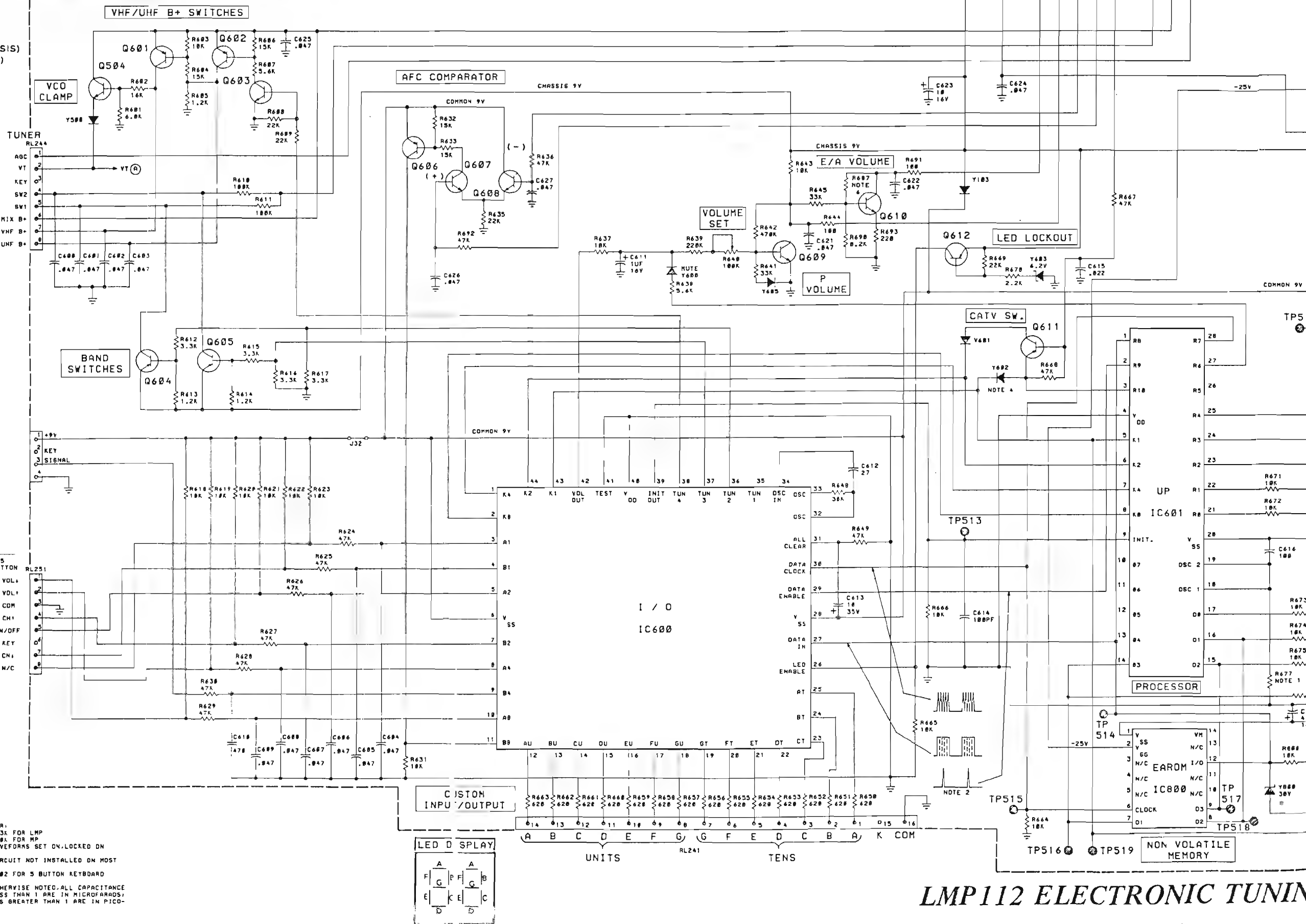
REF. NO.	PART NO.	DISCRIPTION
Q101	EP15X87	NPN, Silicon
Q502	EP15X89	NPN, Silicon

LMP112 ELECTRONIC TUNING SYSTEM

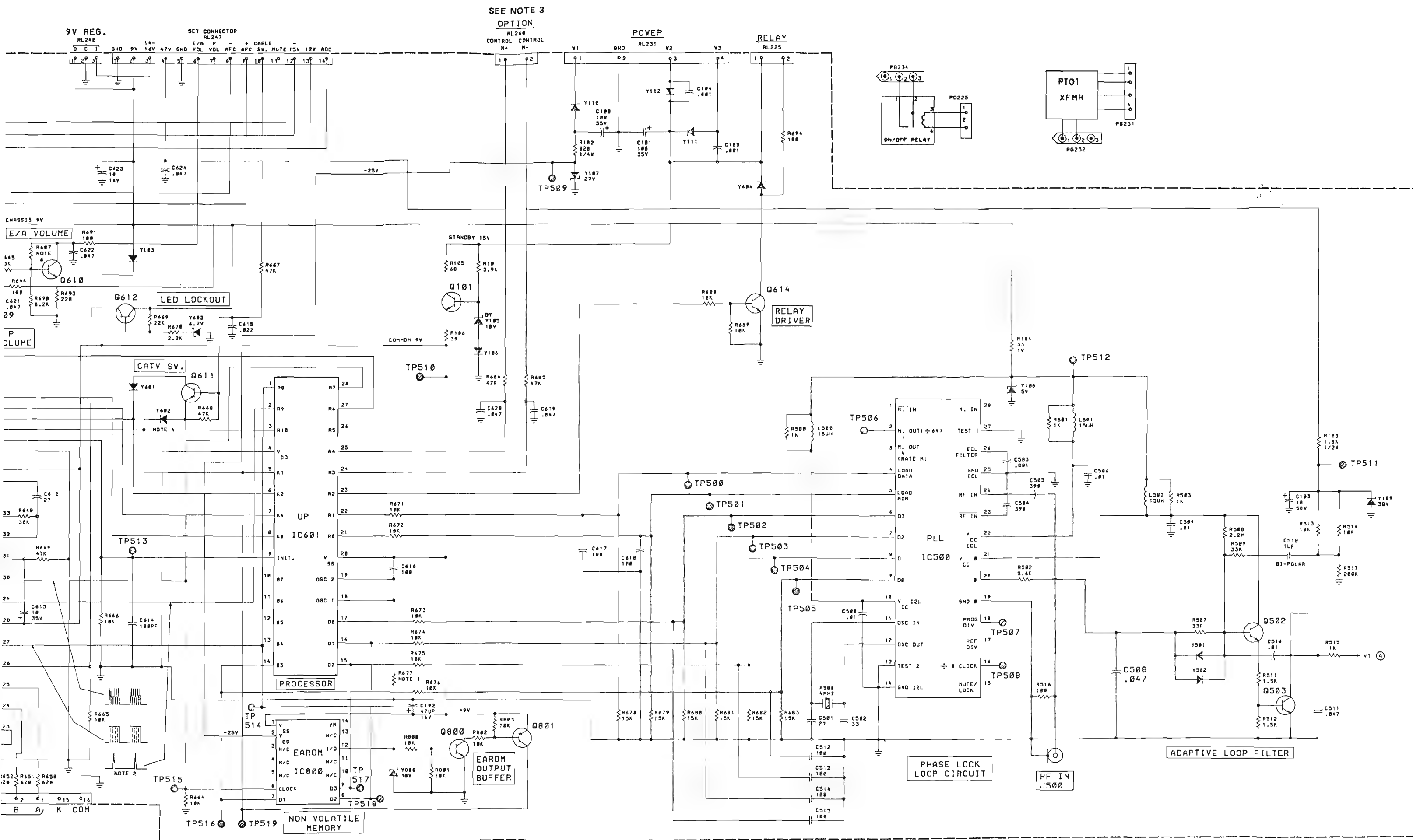


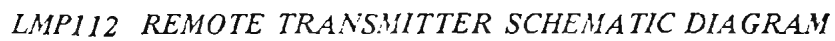
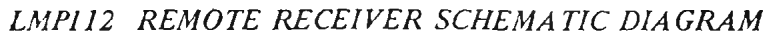
KEYBOARD	
RANDOM ACCESS	5 BUTTON
V1, V2, 1, 2, 7	VOL+
V3, 5, 6, 8, E	VOL-
COM	COM
ON/OFF, V1, 3, 6, 8	CH+
2, 3, 4, 5	ON/OFF
KEY	KEY
ON/OFF, 1, 4, 9, E	CH-
7, 8, 9, 8	N/C

- NOTES
1. SELECT FOR:
TMS1188 43K FOR LMP
TMS1188 39K FOR MP
 2. SIGNAL WAVEFORMS SET ON LOCKED ON CHANNEL.
 3. OPTION CIRCUIT NOT INSTALLED ON MOST MODELS.
 4. REMOVE Y402 FOR 5 BUTTON KEYBOARD ON MP.
 5. UNLESS OTHERWISE NOTED, ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS, ALL VALUES GREATER THAN 1 ARE IN PICOFARADS.
 6. 26K-MP
22K-MP



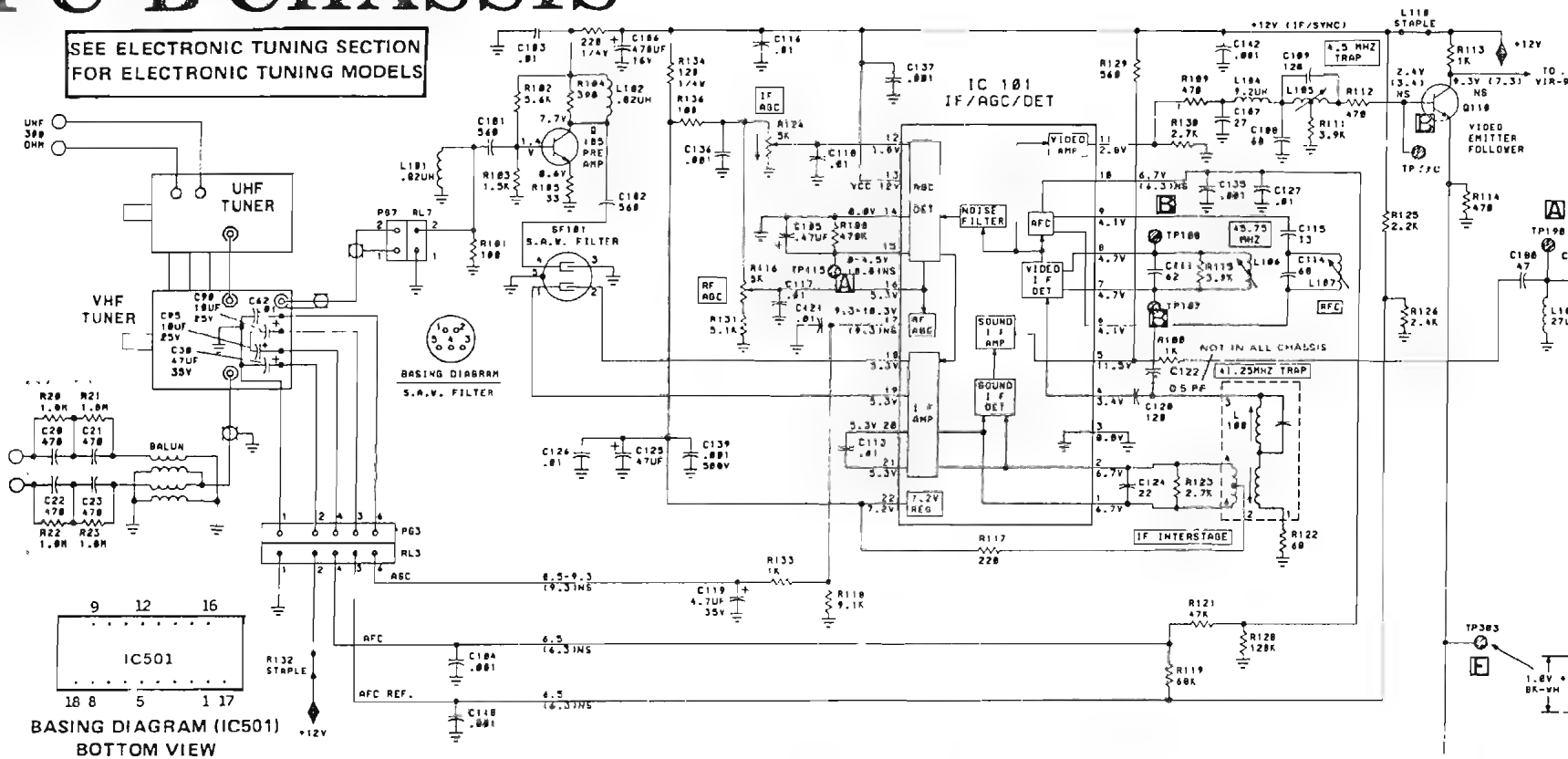
LMP112 ELECTRONIC TUNIN



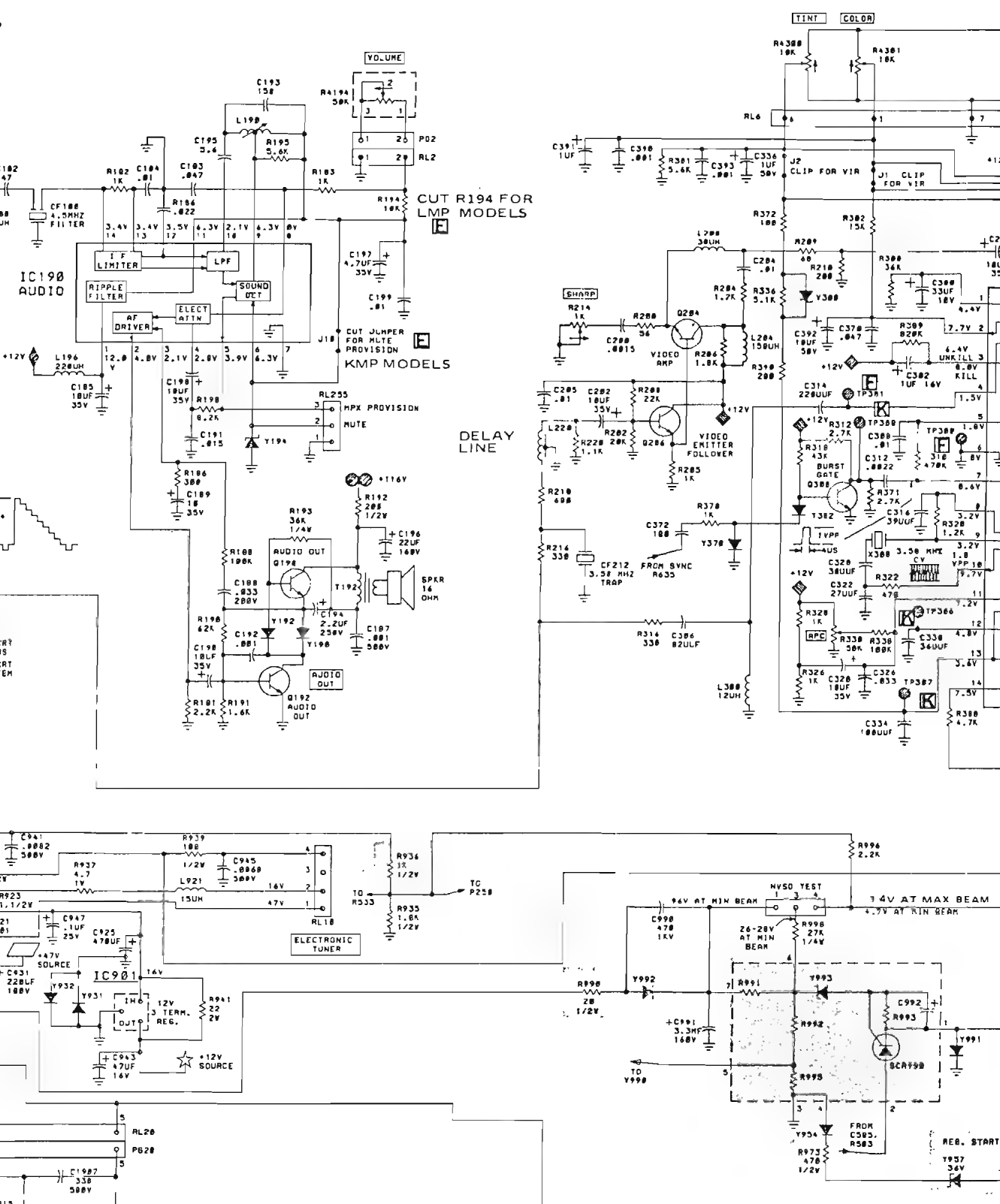


PC-B CHASSIS

SEE ELECTRONIC TUNING SECTION
FOR ELECTRONIC TUNING MODELS



RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR TEST POINT LOCATION (SEE PC-B CHASSIS LAYOUT—OTHER



73E261689-REV2
SCHEMATIC PC-19
SERVICE #B01
UNLESS OTHERWISE NOTED:

R = 1.000
M = 1.000
CAPACITORS MORE THAN 1 = 10UF = 1PF
CAPACITORS LESS THAN 1 = UF
INDUCTORS MORE THAN 1 = MH
RESISTORS ARE 1/8 WATT

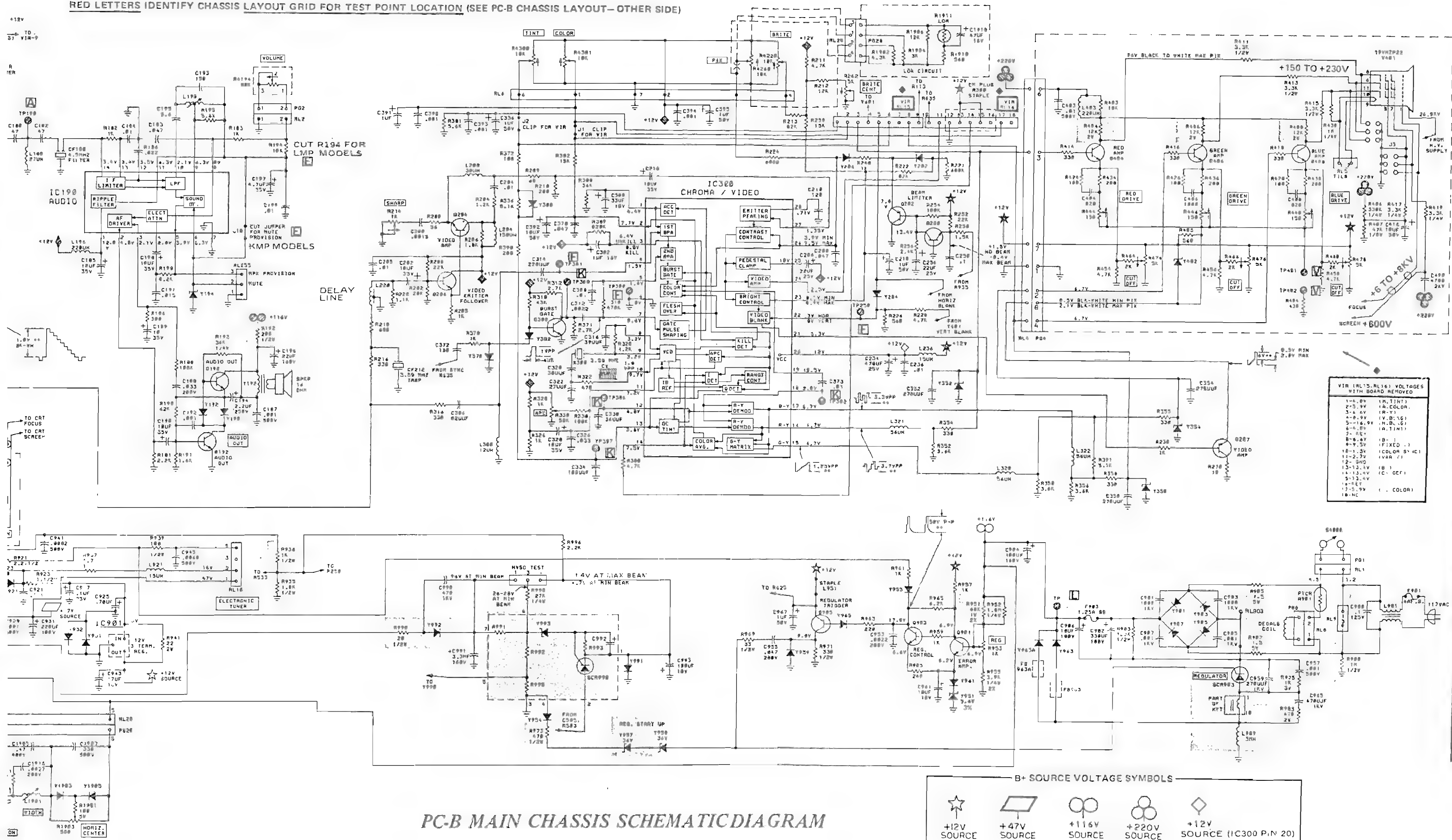
VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS.
RECEIVER SET FOR NORMAL OPERATION WITH STRONG SIGNAL.
MEASUREMENTS MAY VARY +/-10% AT 120V AC LINE VOLTAGE.
SIGNAL WAVEFORMS TAKEN WITH KEYED RANDOM GENERATOR SIGNAL.

++ INDICATES WAVEFORM TAKEN AT 1/2 HORIZONTAL SWEEP RATE.
* INDICATES WAVEFORMS TAKEN AT 1/2 VERTICAL SWEEP RATE.
RL = RECEPTACLE
PB = P-100
N.B. = NO SIGNAL

HORIZ. OUTPUT XSISTOR AND DAMPER DIODE ARE INCLUDED
IN THE SAME UNIT. REPLACE ONLY WITH ORIGINAL EQUIPMENT
GE CATALOG REPLACEMENT PART NUMBER EP15X218.

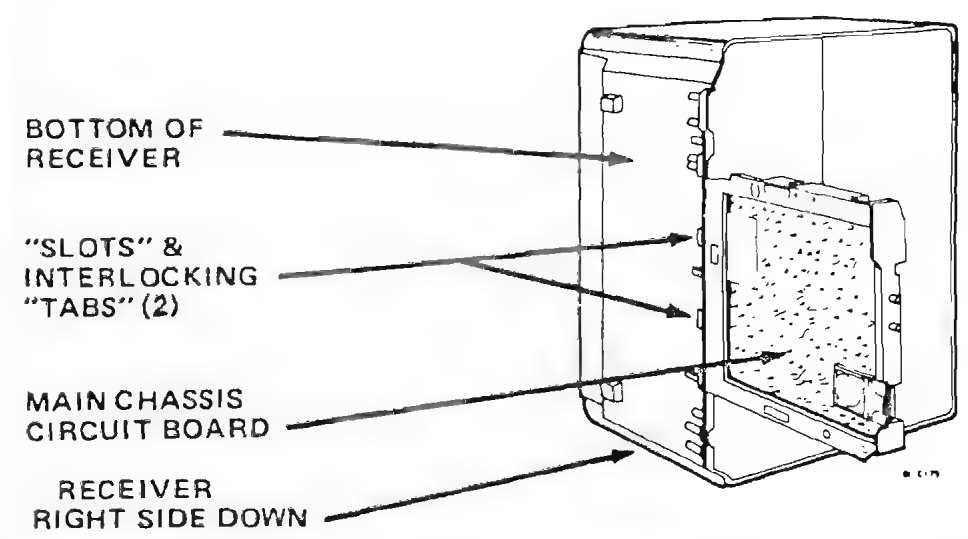
PC-B MAIN CHASSIS SCH.

412V
TO
31 VIA-9



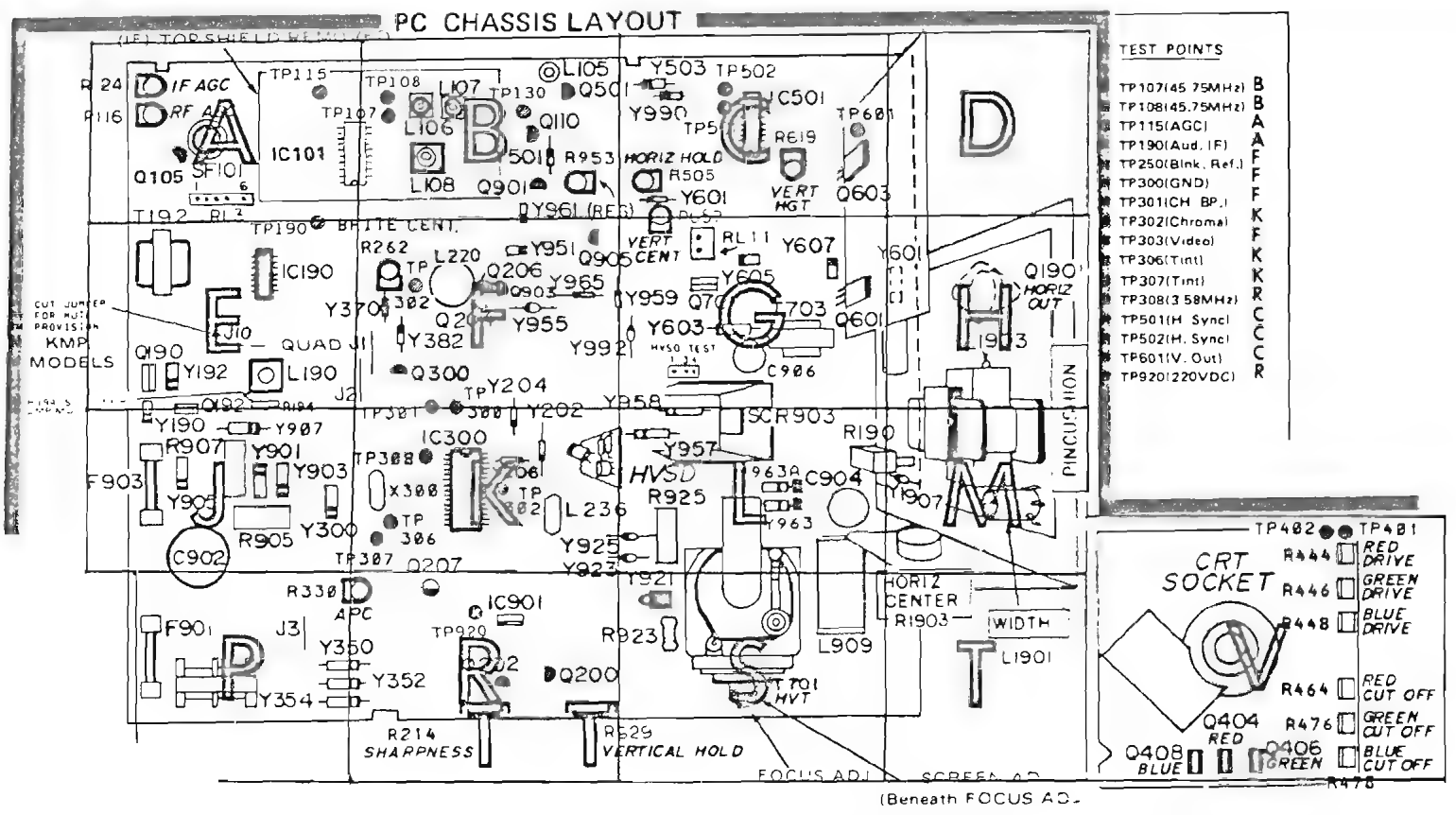
PC-B MAIN CHASSIS SCHEMATIC DIAGRAM

CHASSIS SERVICE POSITION



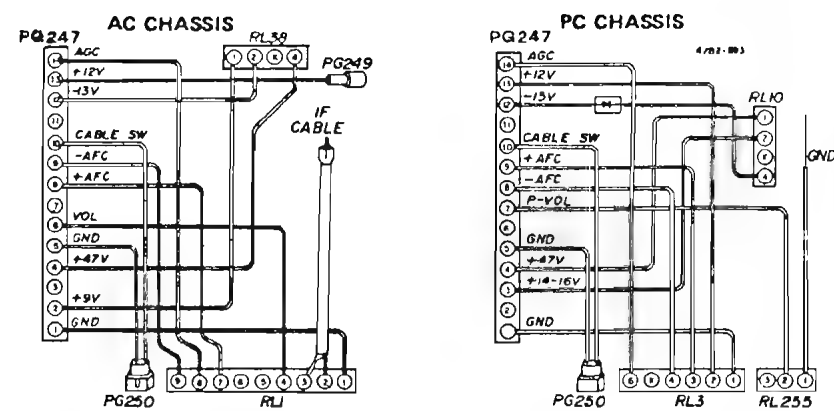
THE CIRCUIT BOARD IS HELD IN PLACE BY TWO PLASTIC "QUICK RELEASE" LOCKING CLIPS LOCATED AT THE BOTTOM REAR OF THE CABINET. TO RELEASE THE CIRCUIT BOARD PRESS DOWN ON THE RETAINERS AND SLIDE THE BOARD OUT OF THE CABINET.

PC CHASSIS LAYOUT

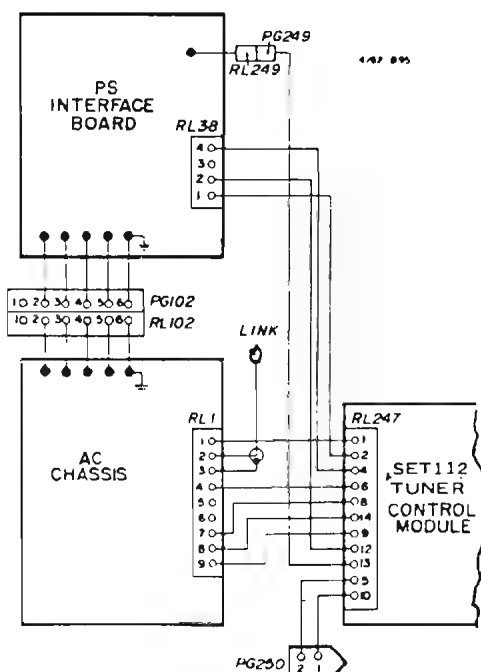
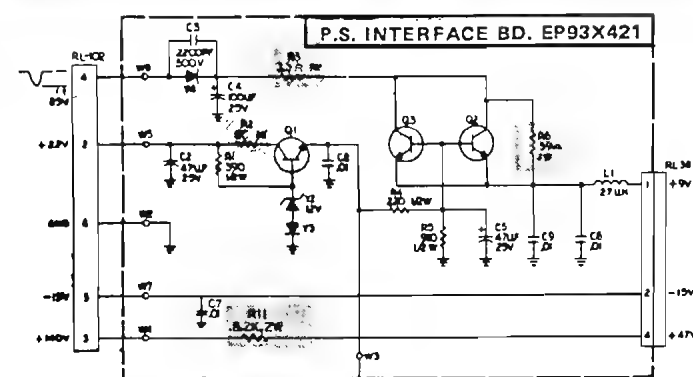
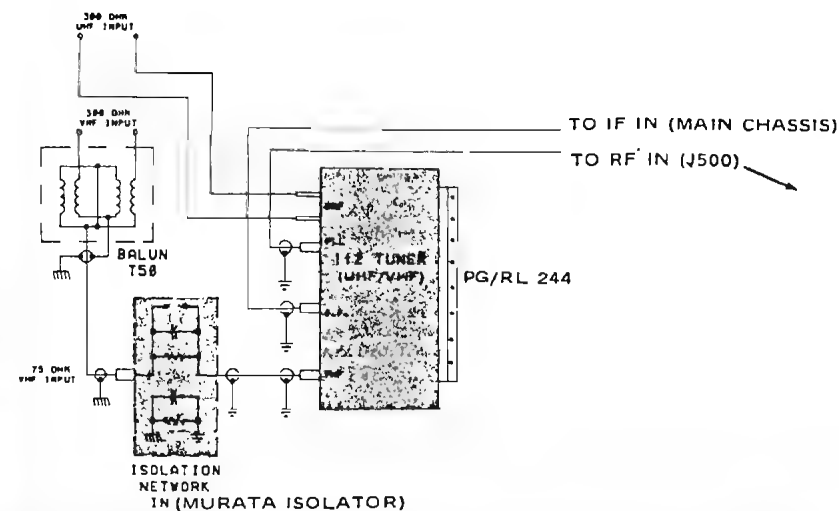


PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.

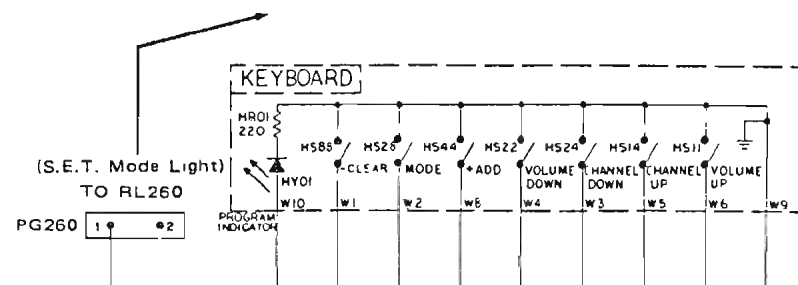
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS OR EXCESSIVE X-RADIATION



AC, AND PC CHASSIS INTERFACE CONNECTIONS
TO SET112 TUNER CONTROL MODULE



AC CHASSIS PWR. SUPPLY INTERFACE
TO SET112 TUNER CONTROL MODULE

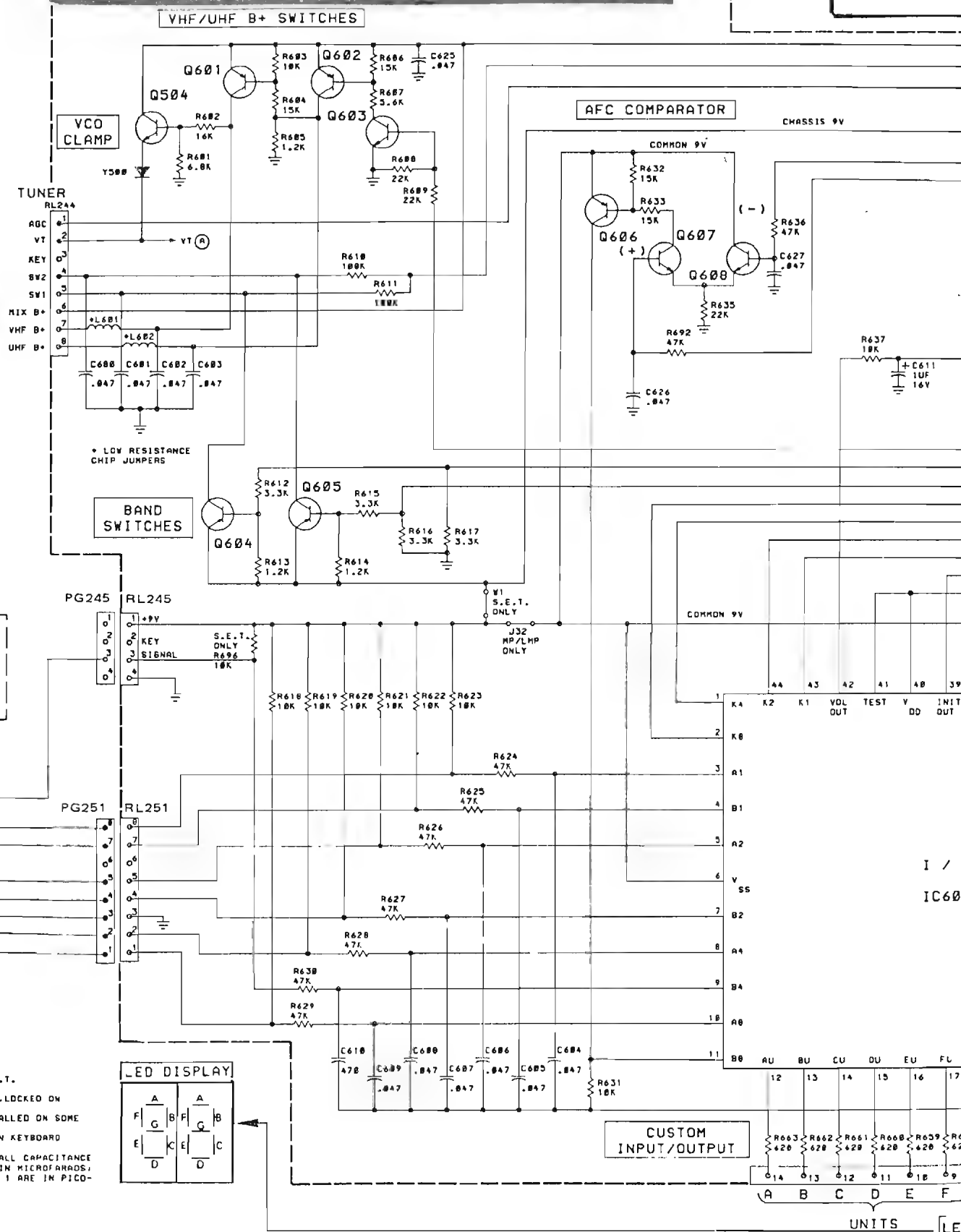


† IC100 9V REGULATOR USED IN
PC CHASSIS MODELS ONLY.

NOTES

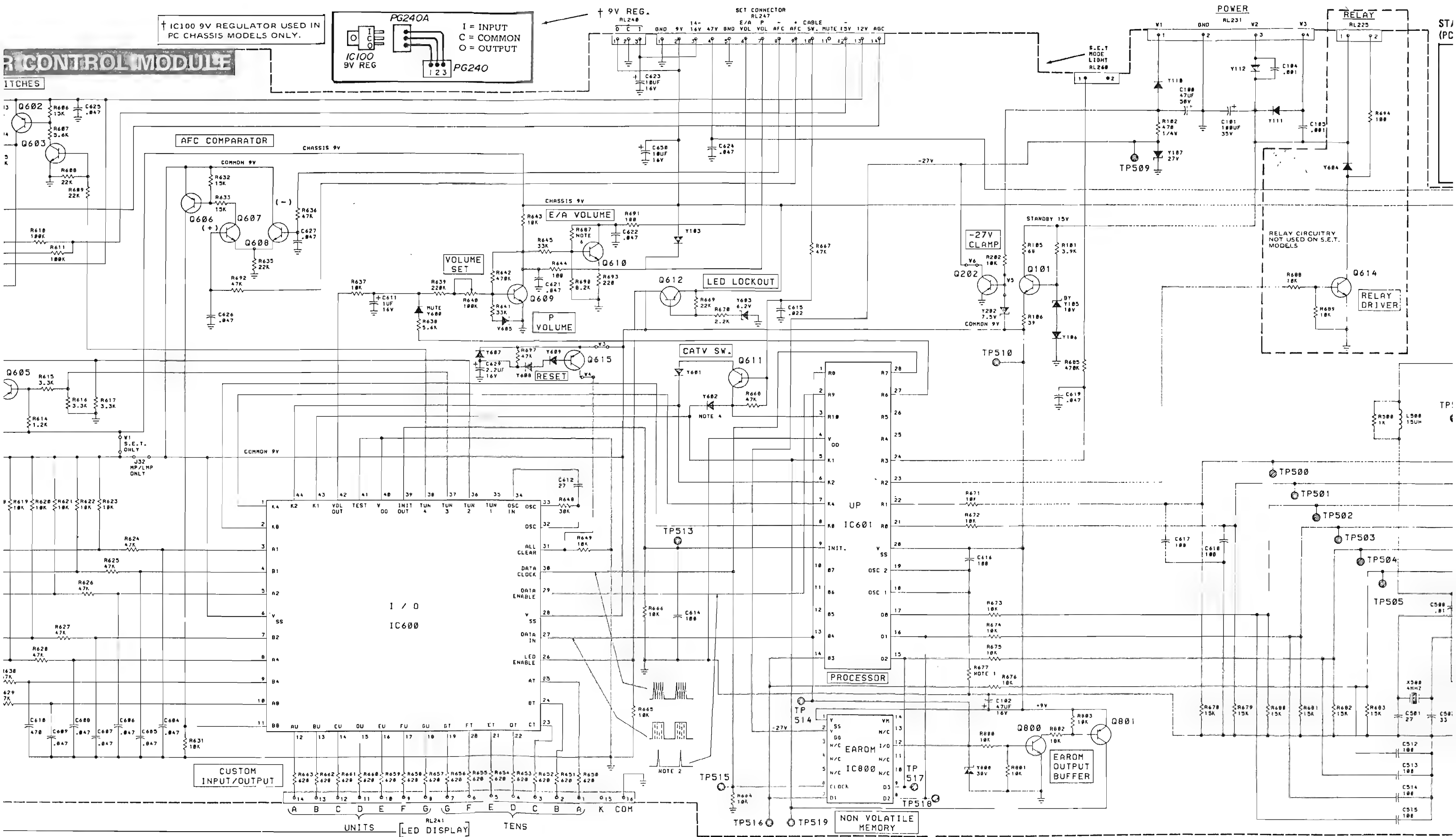
1. SELECT FOR:
THS1188 43K FOR LMP/S.E.T.
THS1188 38K FOR MP
2. SIGNAL WAVEFORMS SET ON LOCKED ON
CHANNEL.
3. OPTION CIRCUIT NOT INSTALLED ON SOME
MODELS.
REMOVE Y62 FOR 3 BUTTON KEYBOARD
ON MP.
4. UNLESS OTHERWISE NOTED, ALL CAPACITANCE
VALUES LESS THAN 1 ARE IN MICROFARADS,
ALL VALUES GREATER THAN 1 ARE IN PICO-
FARADS.
5. 36K-RP
22K-LMP/S.E.T.

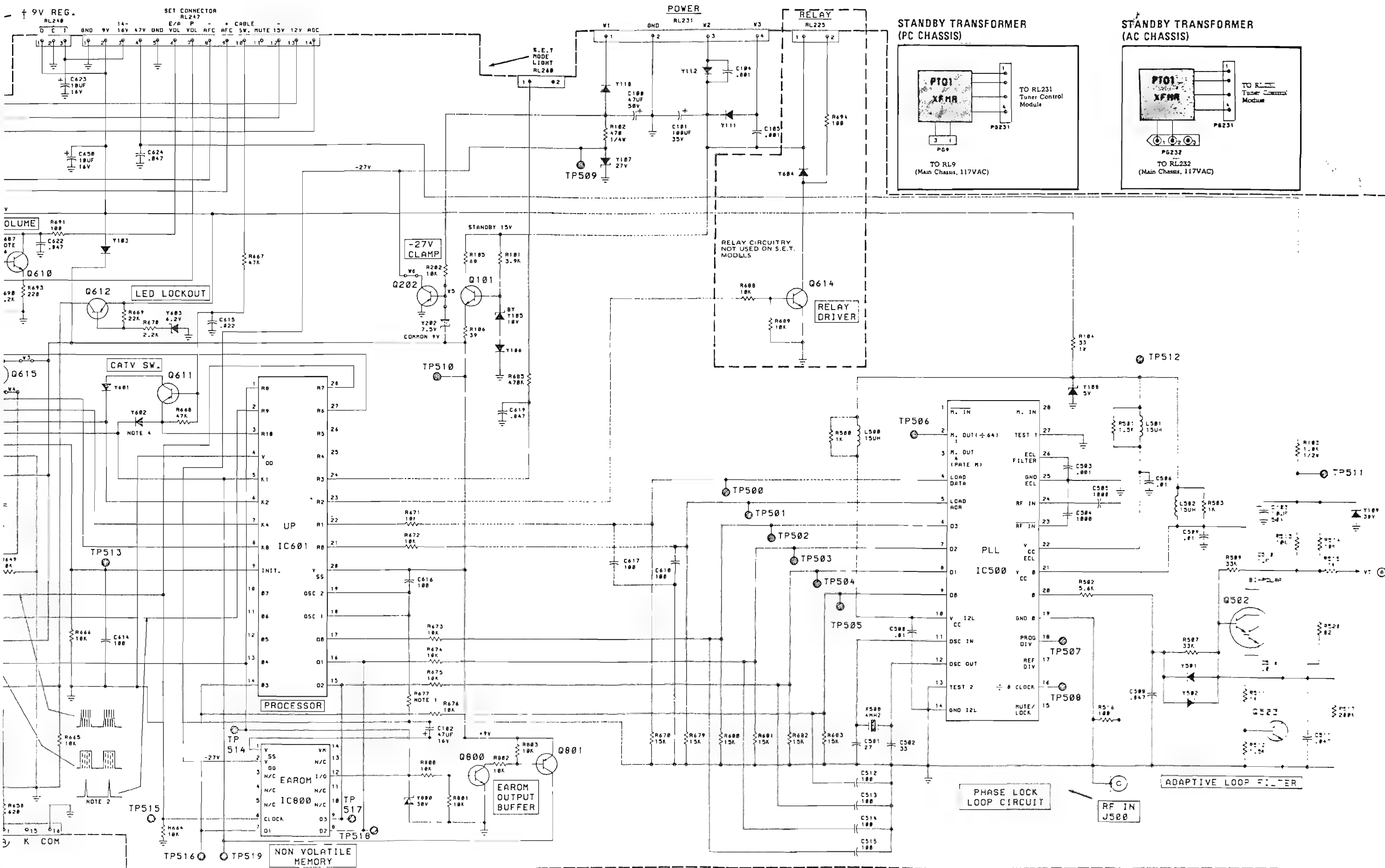
SET112 TUNER CONTROL MODULE

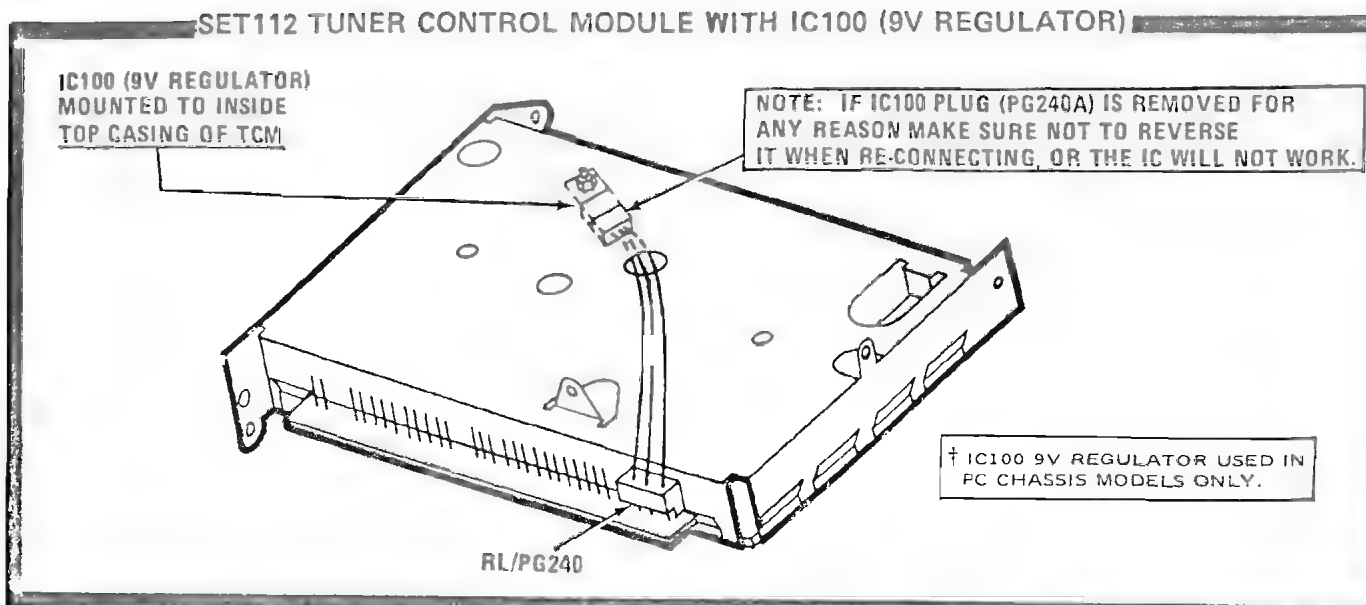


I /
IC60

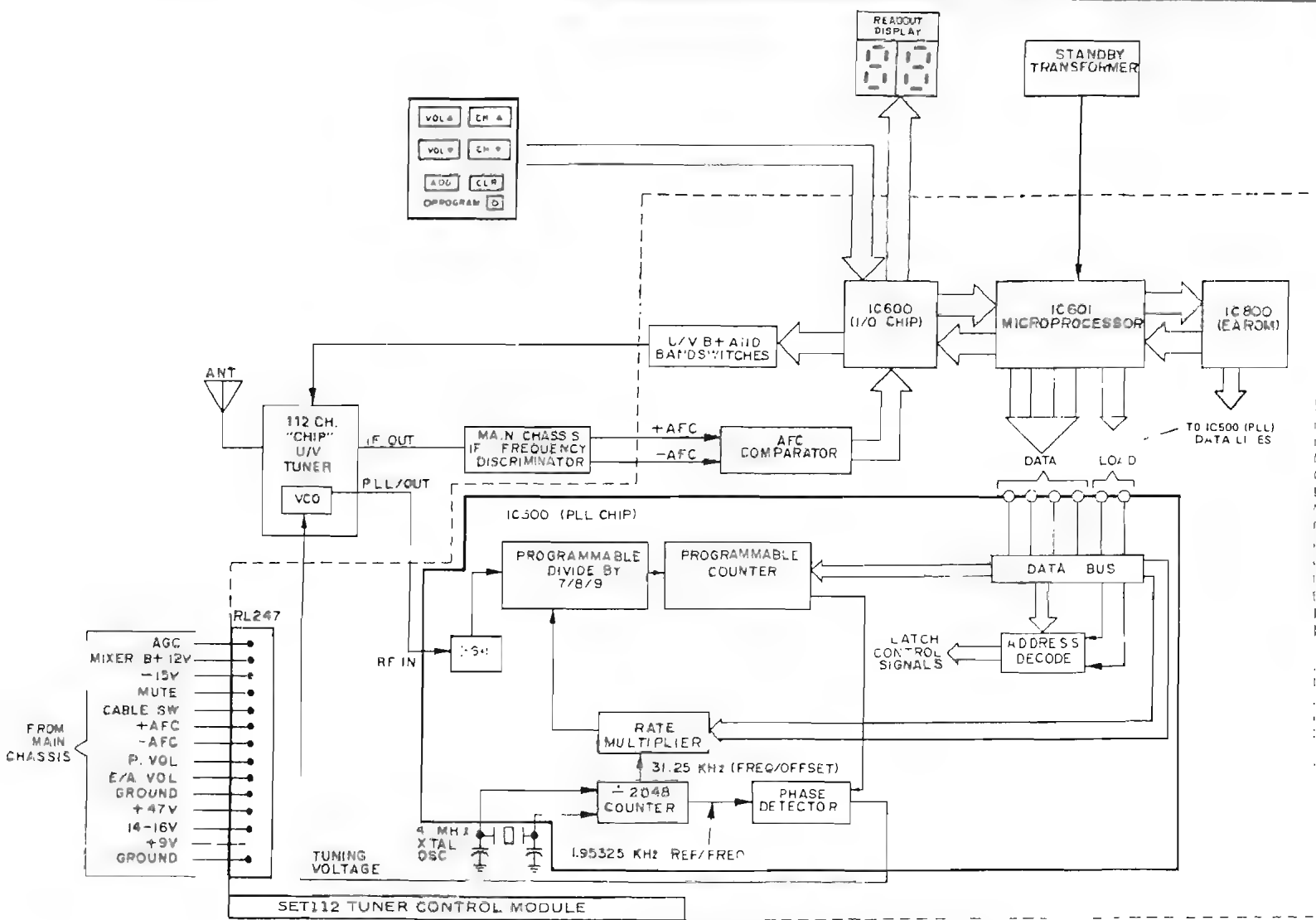
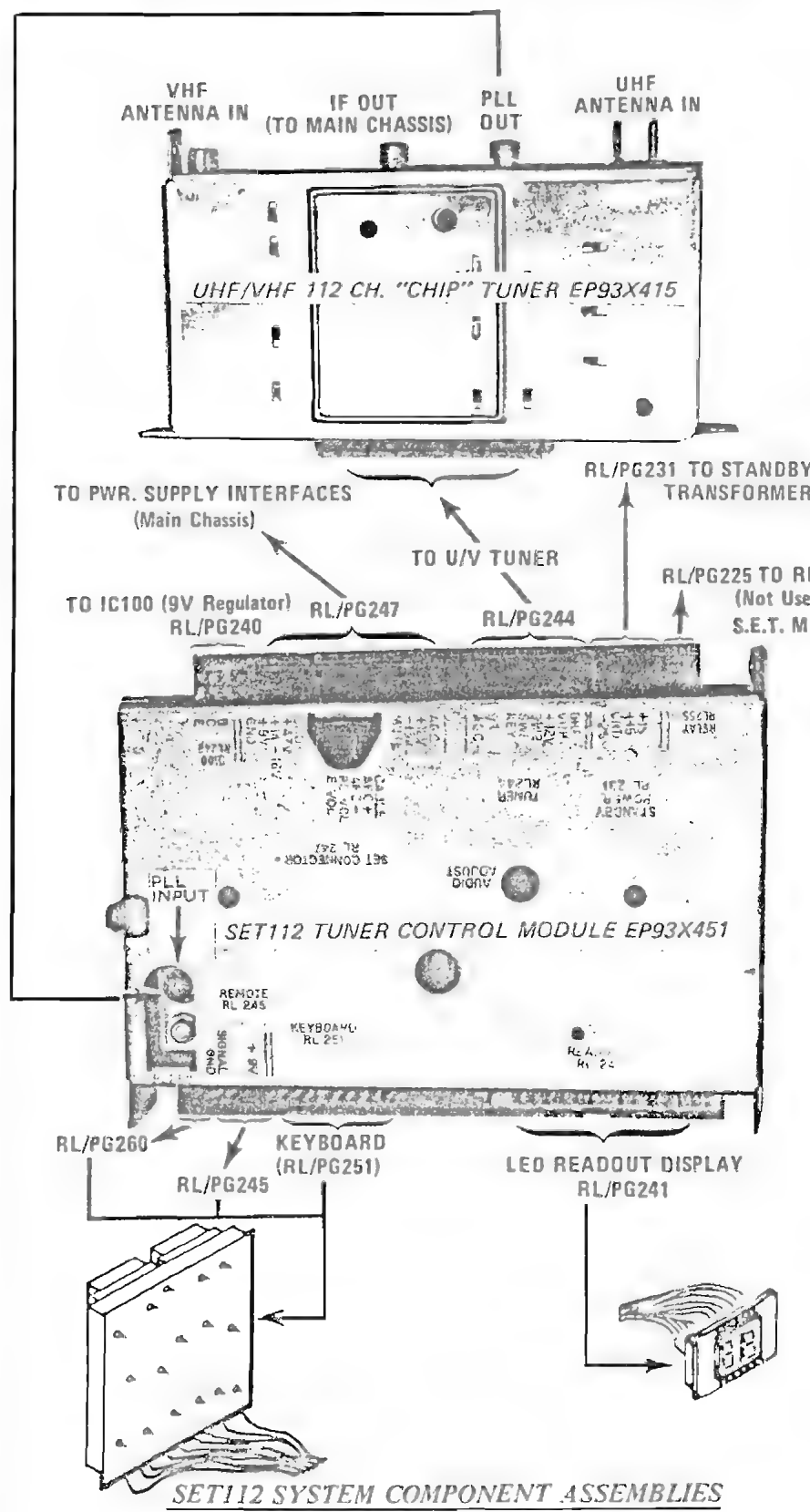
UNITS [LE







SET112 SYSTEM COMPONENT ASSEMBLIES



SET112 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM

SET112 SYSTEM TROUBLESHOOTING INFORMATION

General: In order to troubleshoot the SET 112 Ch. electronic tuning system more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable.

Power Supplies

1. Do not unplug, but do check all voltages at RL/PG247.
2. Check RL231, Pin 1 for 30 to 38VAC (supply for B minus (-) 27V supply to Non-Volatile Memory, IC800, EAROM).
3. Check for 30 to 38VAC across Pins 3 and 4 of RL231 (supply for Standby Supply Voltage).
4. Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Troubleshooting Order

In order of probability after checking power supplies, wires, cable switch, check:

1. Tuner/Bandswitch transistors
2. Microprocessor (IC601)
3. Keyboard
4. IC600 (I/O) Chip
5. IC800 (EAROM)
6. IC500 (PLL CHIP)

Categorized Symptoms

- **Dark Raster (LED Readout Display OK)**
Check U/V Tuner
- **Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)**
Check Bandswitch Transistors
- **No Channel, No Keyboard Operation**
Check Microprocessor (IC601)
- **No Last Channel or Favorite Channel Memory during power failure.**
Check IC800 (EAROM)
- **Readout Display OK, but Channels Off-Frequency**
Check Bandswitch voltage, if OK, check IC500 (PLL Chip)

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microprocessor

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O), or the LED display unit

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner. Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry, be at fault.

Check the IF per Main Chassis troubleshooting chart. IF OK, PROCEED TO SET ELECTRONIC TUNING TROUBLESHOOTING FOR POSSIBLE SOLUTION TO THE PROBLEM

U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels, CH 1=28V, 6=20V, 13=19V, 33=6.5V and 82=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

SET112 TUNING SYSTEM REPLACEMENT PARTS LIST

SET112 TUNING SYSTEM (PC CHASSIS)

RESISTOR		
REF. NO.	PART NO.	DESCRIPTION
R29	EP14X326	VARISTOR-Metal Oxide
INTEGRATED CIRCUIT		
REF. NO.	PART NO.	DESCRIPTION
† IC100	EP84X230	3 Terminal 9V Regulator
COIL & TRANSFORMER		
REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
★ PT01	EP88X43	TRANSFORMER-Power
MISCELLANEOUS		
REF. NO.	PART NO.	DESCRIPTION
RL1	EP92X110	BRACKET-Upper Controls Mtg, Plastic
RL7	EP8X60	CABLE-Antenna Bracket To Tuner
RL9	EP8X124	CABLE-SET112 Board To Tuner
	EP41X135	CHANNEL READOUT DISPLAY-Green
	EP8X93	CONNECTOR-5 Pos.
	EP8X68	CONNECTOR-2 Pos.
	EP8X90	CONNECTOR-3 Pos.
	EP62X166	KEYBOARD-Vol., Channel Sel.
	EP93X451	SET112 CONTROL BOARD-Complete
	★ EP93X415	UHF/VHF TUNER

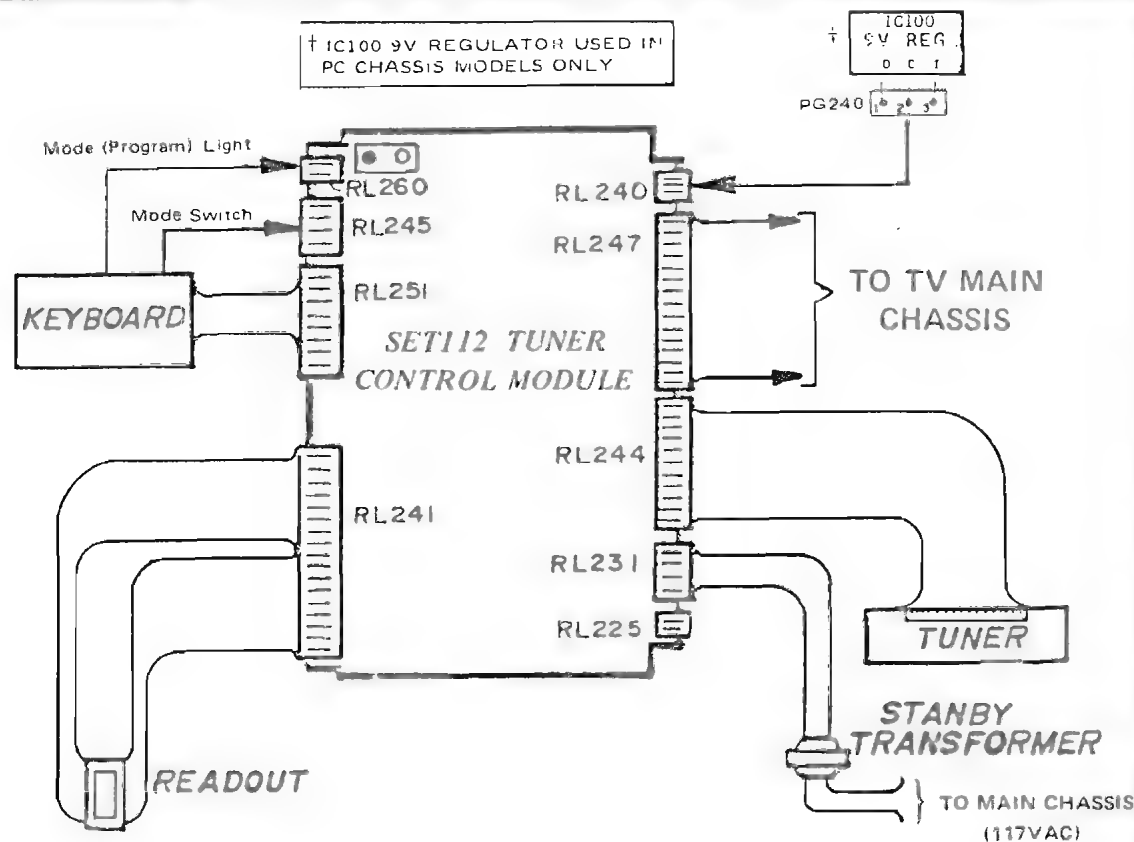
SET112 TUNING SYSTEM (AC C

MISCELLANEOUS		
REF. NO.	PART NO.	DESCRIPTION
	EP8X97	CABLE-13" Long, CHANNEL NUMBER
RL38	EP41X135	CONNECTOR-4 Pin
RL102	EP8X94	CONNECTOR-6 Pin
PG232	EP8X44	CONNECTOR-3 Pin
PG249	EP8X41	CONNECTOR-1 Pin
PG250	EP8X30	CONNECTOR-2 Pin
★ F950	EP8X43	FUSE-1.25amp, 2 Snap-In
	EP10X27	KEYBOARD-Vol., POWER SUPPLY IN SET112 CONTROL TRANSFORMER-Pow
	EP62X166	VARISTOR-"MOV", UHF/VHF TUNER
	EP93X421	
	EP93X451	
★ PT01	EP88X43	
	EP14X326	
	★ EP93X415	

SET112 TUNER CONTROL BOARD

EP93X451

SET112 CONTROL BOARD PLUG LOCATIONS



SET112 CONTROL BOARD PLUG LOCATIONS

POWER SUPPLY INTERFACE BOARD (AC CHASSIS ONLY) EP93X421

RESISTORS		
REF. NO.	PART NO.	DESCRIPTION
R1	ES14X57	390 ohm, 5%, 1/2W, Carbon
★ R2	EP14X167	150 ohm, 5%, 1W, Metal Oxide
★ R3	EP14X151	3.3 ohm, 5%, 1W, Metal Oxide
R4	EP14X129	220 ohm, 5%, 1/2W, Carbon
R5	EP14X295	910 ohm, 5%, 1/2W, Carbon
★ R6	EP14X245	39 ohm, 5%, 1W, Metal Oxide
★ R11	EP14X86	B.2K ohm, 5%, 2W, Metal Oxide
TRANSISTORS		
REF. NO.	PART NO.	DESCRIPTION
Q1	ES15X125	NPN, Silicon
Q2	ES15X125	NPN, Silicon
Q3	ES15X125	NPN, Silicon
DIODES		
REF. NO.	PART NO.	DESCRIPTION
Y2	EP16X36	Zener
Y3	EP57X4	Rectifier, Silicon
Y4	EP57X5	Rectifier, Silicon
COIL		
REF. NO.	PART NO.	DESCRIPTION
L1	EP36X144	CHOKE-27uh, 5%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
K500	EP41X68	CRYSTAL-Filter
† IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X231	Microcomputer
IC800	EP84X224	Alterable Read Only Memory
TRANSISTORS		
REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	DARLINGTON, NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	7.5V, Ze
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15u
L501	EP36X136	CHOKE-15u
L502	EP36X136	CHOKE-15u

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† IC100 9V REGULATOR USED IN PC CHASSIS MODELS ONLY.

PC CHASSIS

SET112 SYSTEM TROUBLESHOOTING INFORMATION

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Categorized Symptoms

- Dark Raster (LED Readout Display OK)
Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Low or
Cable only)
Check Bandswitch Transistors
- No Channel, No Keyboard Operation
Check Microprocessor (IC601)
- No Last Channel or Favorite Channel
Memory during power failure.
Check IC800 (E2PROM)
- Readout Display OK, but Channels Off
Frequency
Check Bandswitch voltage, if OK, check IC500
(PLL Chip)

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is
incorrect, the problem is probably in the keyboard, IC600 or the
Microprocessor

If the picture appears on the screen but the display is incorrect the
problem is probably in the Microprocessor, (IC600, I/O) or the LED
display unit.

If the display is OK, but the picture doesn't appear on the screen, the
trouble could be in the tuner, Video IF, Standby Supply,
Microprocessor or the PLL, IC500 and associated circuitry.
be at fault.

Check the IF per Main Chassis troubleshooting chart. IF OK, PROCEED
TO SET ELECTRONIC TUNING TROUBLESHOOTING
FOR POSSIBLE SOLUTION TO THE PROBLEM

U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO
PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following
Channels. CH.1=28V, 6=20V, 13=19V, 33=6.5V and 82=26V. The
presence of these voltages indicate that the PLL, IC500 output is
working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one
end of a potentiometer (10K or more) to the tuning voltage terminal.
Connect the center-tap of the pot to chassis ground. Carefully adjust
the pot to tune in a station. If a station can't be tuned in, the tuner is
probably defective

If a station can be tuned in with the potentiometer, the problem could
be the Microprocessor (IC601), or the PLL (IC500).

SET112 TUNING SYSTEM REPLACEMENT PARTS LIST

SET112 TUNING SYSTEM (PC CHASSIS)

RESISTOR		
REF. NO.	PART NO.	DESCRIPTION
R29	EP14X326	VARISTOR-Metal Oxide
INTEGRATED CIRCUIT		
REF. NO.	PART NO.	DESCRIPTION
† IC100	EP84X230	3 Terminal 9V Regulator
COIL & TRANSFORMER		
REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
★ PT01	EP88X43	TRANSFORMER-Power
MISCELLANEOUS		
REF. NO.	PART NO.	DESCRIPTION
RL1	EP92X110	BRACKET-Upper Controls Mtg, Plastic
RL7	EP8X60	CABLE-Antenna Bracket To Tuner
RL9	EP8X124	CABLE-SET112 Board To Tuner
	EP41X135	CHANNEL READOUT DISPLAY-Green
	EP8X93	CONNECTOR-5 Pos.
	EP8X68	CONNECTOR-2 Pos.
	EP8X90	CONNECTOR-3 Pos.
	EP62X166	KEYBOARD-Vol., Channel Sel.
	EP93X451	SET112 CONTROL BOARD-Complete
	★ EP93X415	UHF/VHF TUNER

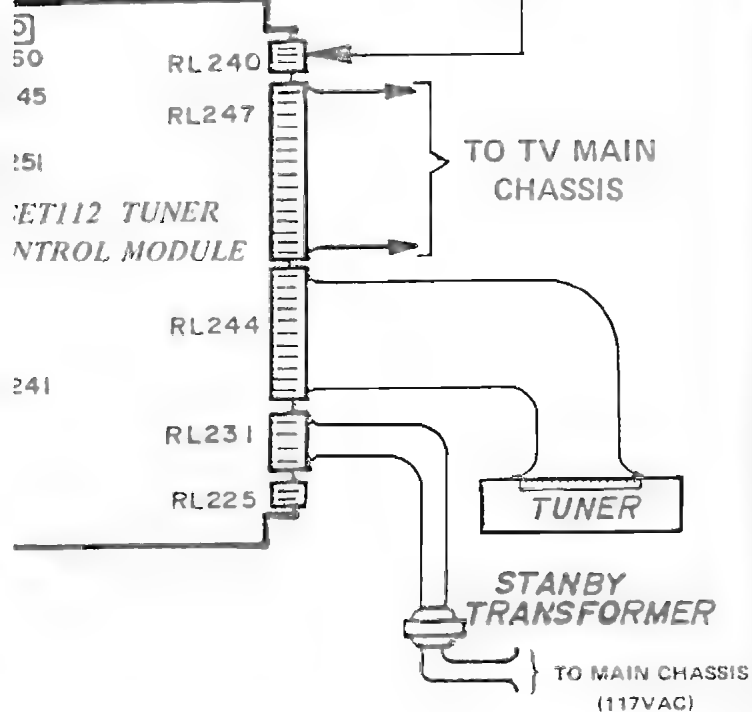
SET112 TUNING SYSTEM (AC CHASSIS)

MISCELLANEOUS		
REF. NO.	PART NO.	DESCRIPTION
RL38	EP8X97	CABLE-13" Long, W/Phone Type Plugs
RL102	EP41X135	CHANNEL NUMBER READOUT DISPLAY-Green
PG232	EP8X94	CONNECTOR-4 Pins
PG249	EP8X44	CONNECTOR-6 Pins
	EP8X41	CONNECTOR-3 Pins
	EP8X30	CONNECTOR-1 Pin
	EP8X43	CONNECTOR-2 Pins
★ F950	EP10X27	FUSE-1.25amp, 250V, Fast Acting, Snap-In
	EP62X166	KEYBOARD-Vol., & Channel Select
	EP93X421	POWER SUPPLY INTERFACE CKT. BOARD
	EP93X451	SET112 CONTROL BOARD-Complete
★ PT01	EP88X43	TRANSFORMER-Power
	EP14X326	VARISTOR-"MOV", Metal Oxide
	★ EP93X415	UHF/VHF TUNER

SET112 TUNER CONTROL BOARD

EP93X451

TUNER BOARD PLUG LOCATIONS

9V REGULATOR USED IN
PC CHASSIS MODELS ONLY.POWER SUPPLY INTERFACE BOARD
(AC CHASSIS ONLY)
EP93X421

RESISTORS		
REF. NO.	PART NO.	DESCRIPTION
R1	ES14X57	390 ohm, 5%, 1/2W, Carbon
★ R2	EP14X167	150 ohm, 5%, 1W, Metal Oxide
★ R3	EP14X151	3.3 ohm, 5%, 1W, Metal Oxide
R4	EP14X129	220 ohm, 5%, 1/2W, Carbon
R5	EP14X295	910 ohm, 5%, 1/2W, Carbon
★ R6	EP14X245	39 ohm, 5%, 1W, Metal Oxide
★ RL1	EP14X86	8.2K ohm, 5%, 2W, Metal Oxide

TRANSISTORS		
REF. NO.	PART NO.	DESCRIPTION
Q1	ES15X125	NPN, Silicon
Q2	ES15X125	NPN, Silicon
Q3	ES15X125	NPN, Silicon

DIODES		
REF. NO.	PART NO.	DESCRIPTION
Y2	EP16X36	Zener
Y3	EP57X4	Rectifier, Silicon
Y4	EP57X5	Rectifier, Silicon

COIL		
REF. NO.	PART NO.	DESCRIPTION
L1	EP36X144	CHOKE-27uh, 5%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
† IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescaler
IC600	EP84X222	Custom Interface
IC601	EP84X231	Microcomputer
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	DARLINGTON, NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X152	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	7.5V, Zener
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

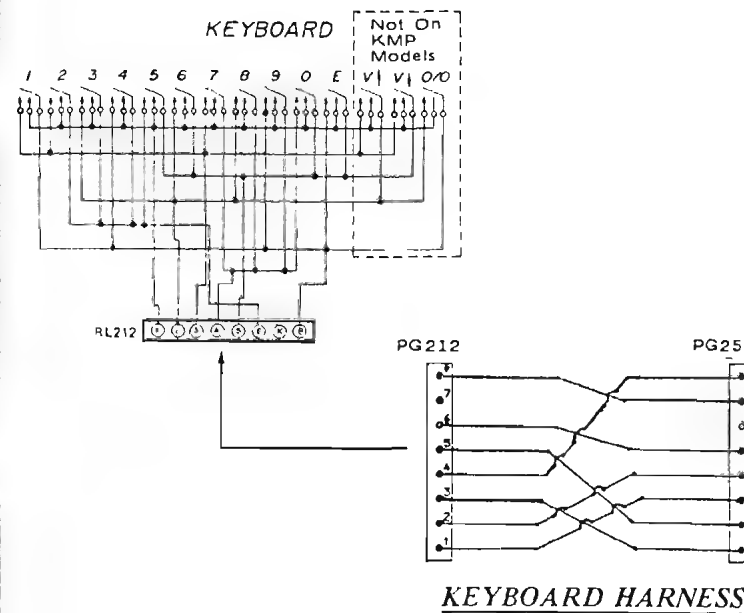
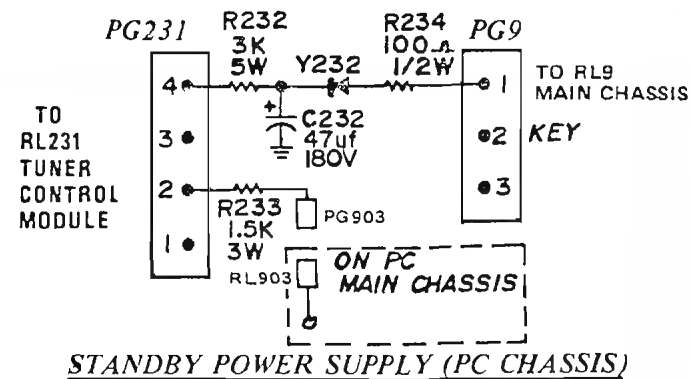
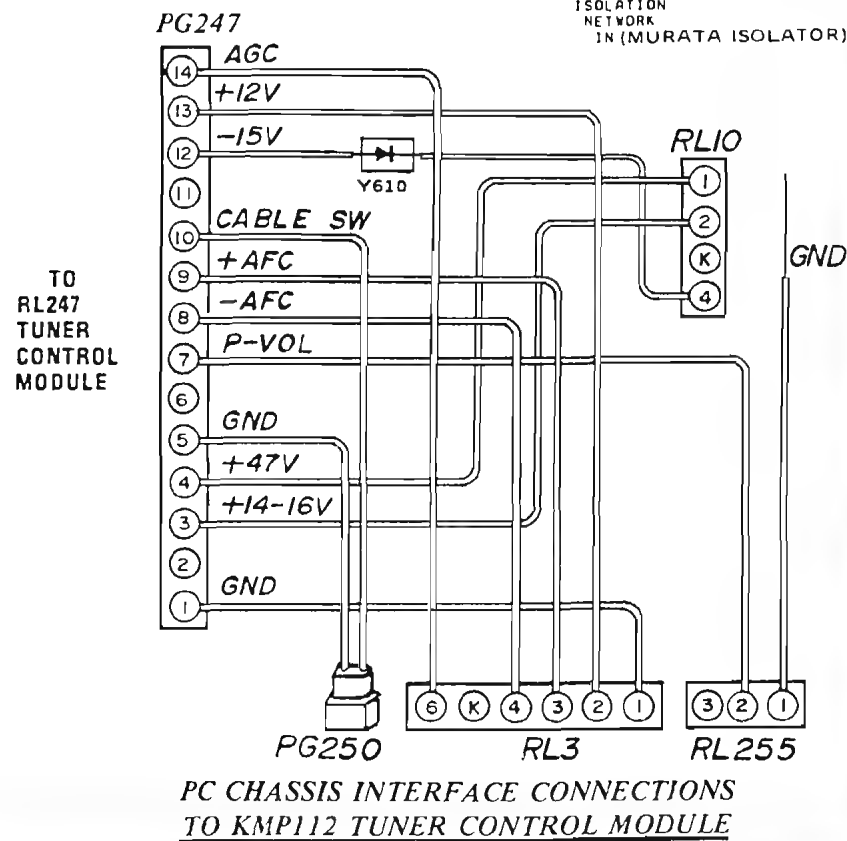
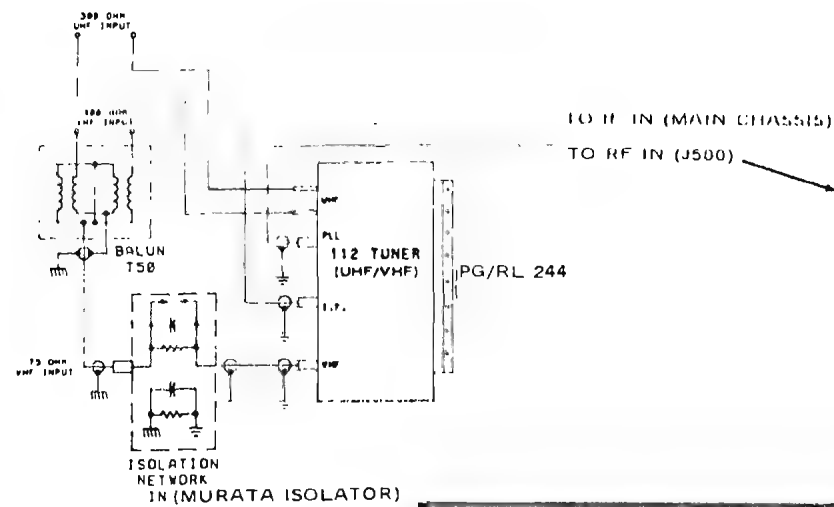
REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15uh, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF THE RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

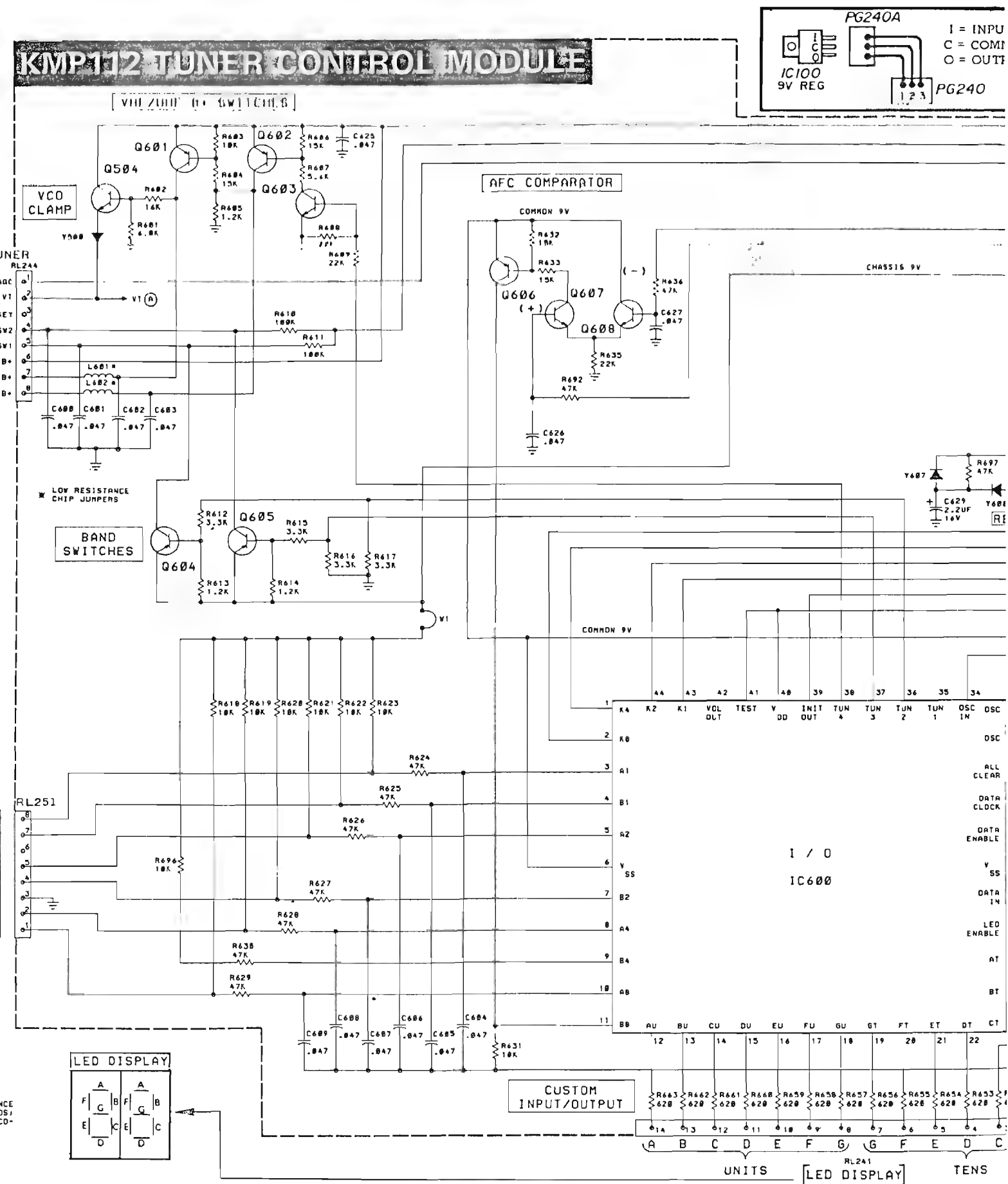
† IC100 BY REGULATOR USED IN
PC CHASSIS MODELS ONLY.

TUNER BOARD PLUG LOCATIONS

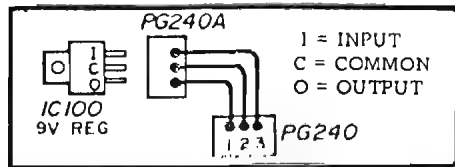
73E261881-2



- NOTES
1. SIGNAL WAVEFORMS SET ON LOCKED ON CHANNEL.
 2. UNLESS OTHERWISE NOTED, ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS; ALL VALUES GREATER THAN 1 ARE IN PICO-FARADS.



DL MODULE



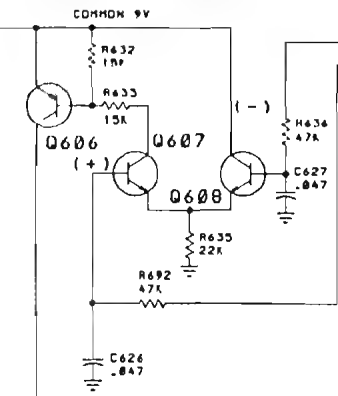
9V REG.

SET CONNECTOR
RL247

E/A P - + CABLE
D C T BND 9V 14- 16V 47V BND VDL VDL AFC AFC SV. MUTE 15V 12V AOC

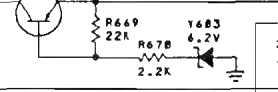
POWER
RL231

AFC COMPARATOR



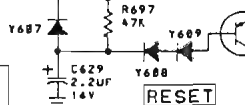
CHASSIS 9V

LED LOCKOUT

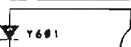


STANDBY 15V

Q101



CATV SW.



PROCESSOR

IC601

UP

IC601

UP

IC601

UP

IC601

UP

IC601

UP

IC601

UP

IC601

UP

IC601

UP

1 / 0

IC600

CUSTOM
INPUT/OUTPUT

RL241

UNITS

[LED DISPLAY]

TENS

PHASE LOCK
LOOP CIRCUIT

TP506

TP500

TP501

TP502

TP503

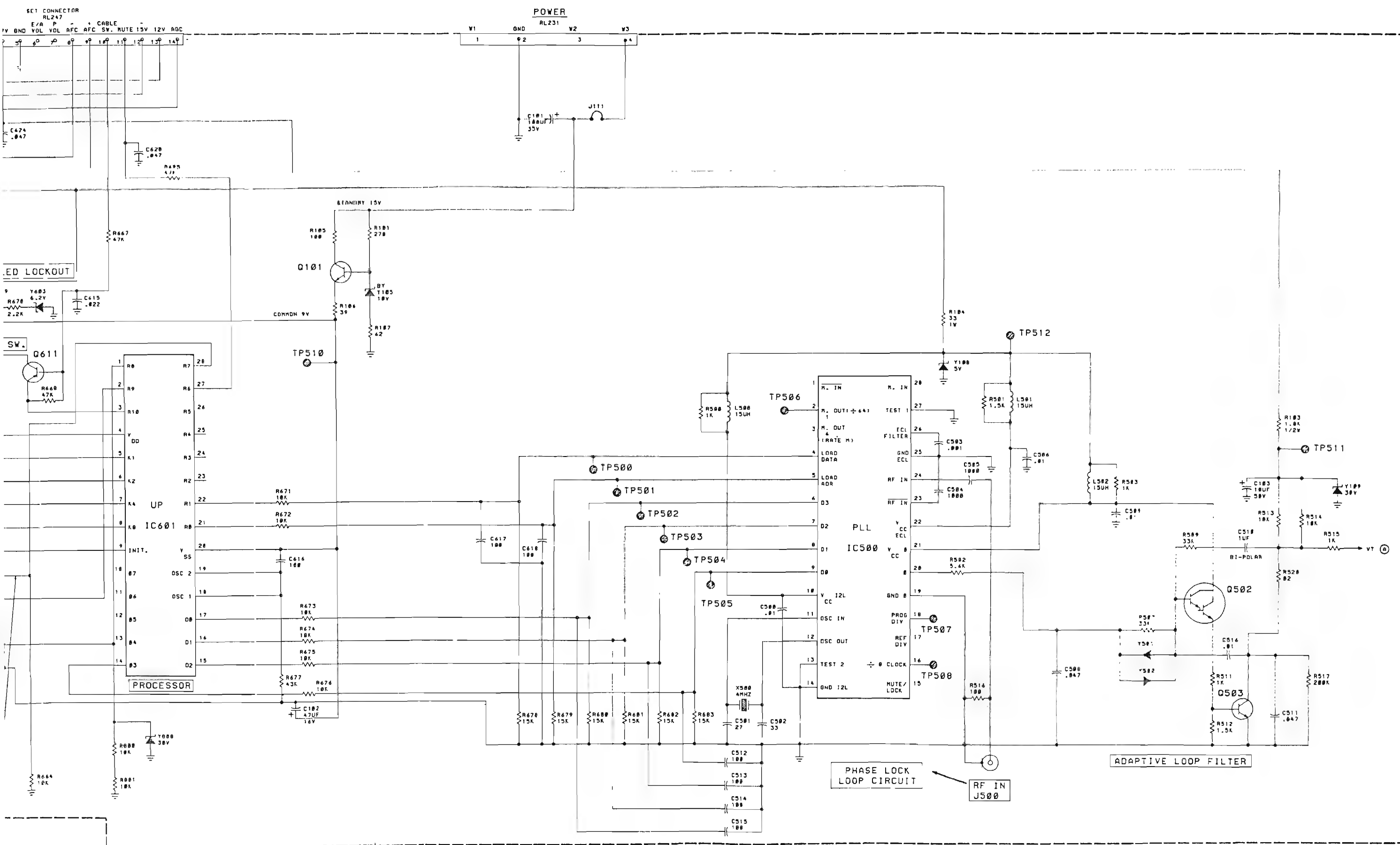
TP504

TP505

TP506

TP507

TP508



KMP112 ELECTRONIC TUNING SYSTEM

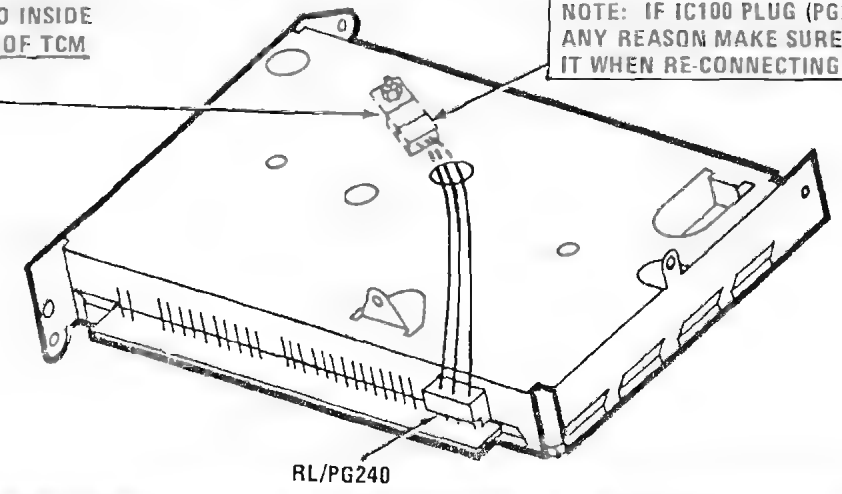
MINI-MANUAL
SERVICE INFORMATION
FOR TECHNICIAN
USE ONLY
ACCESSIBLE FROM INSIDE
TV SET ONLY

73E261761-3

KMP112 TUNER CONTROL MODULE WITH IC100 (9V REGULATOR)

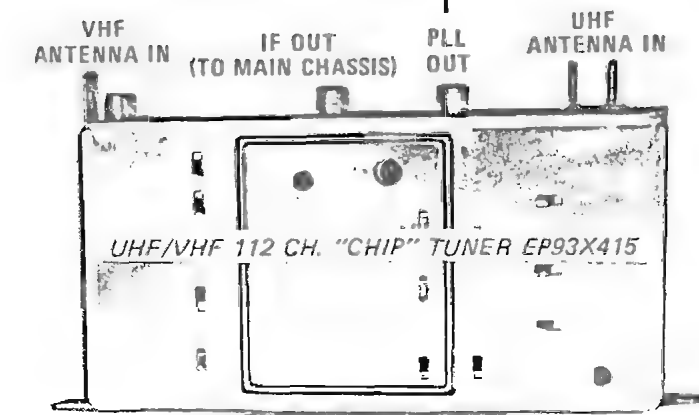
IC100 (9V REGULATOR)
MOUNTED TO INSIDE
TOP CASING OF TCM

NOTE: IF IC100 PLUG (PG240A) IS REMOVED FOR
ANY REASON MAKE SURE NOT TO REVERSE
IT WHEN RE-CONNECTING, OR THE IC WILL NOT WORK.



RL/PG240

KMP112 SYSTEM COMPONENT ASSEMBLIES



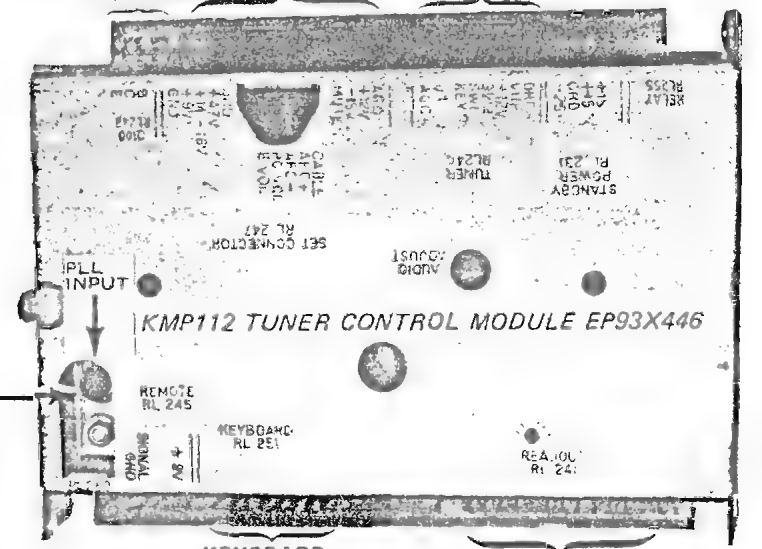
TO PWR. SUPPLY INTERFACES
(Main Chassis)

TO U/V TUNER

TO IC100 (9V Regulator)
RL/PG240

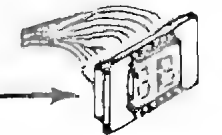
RL/PG247

RL/PG244

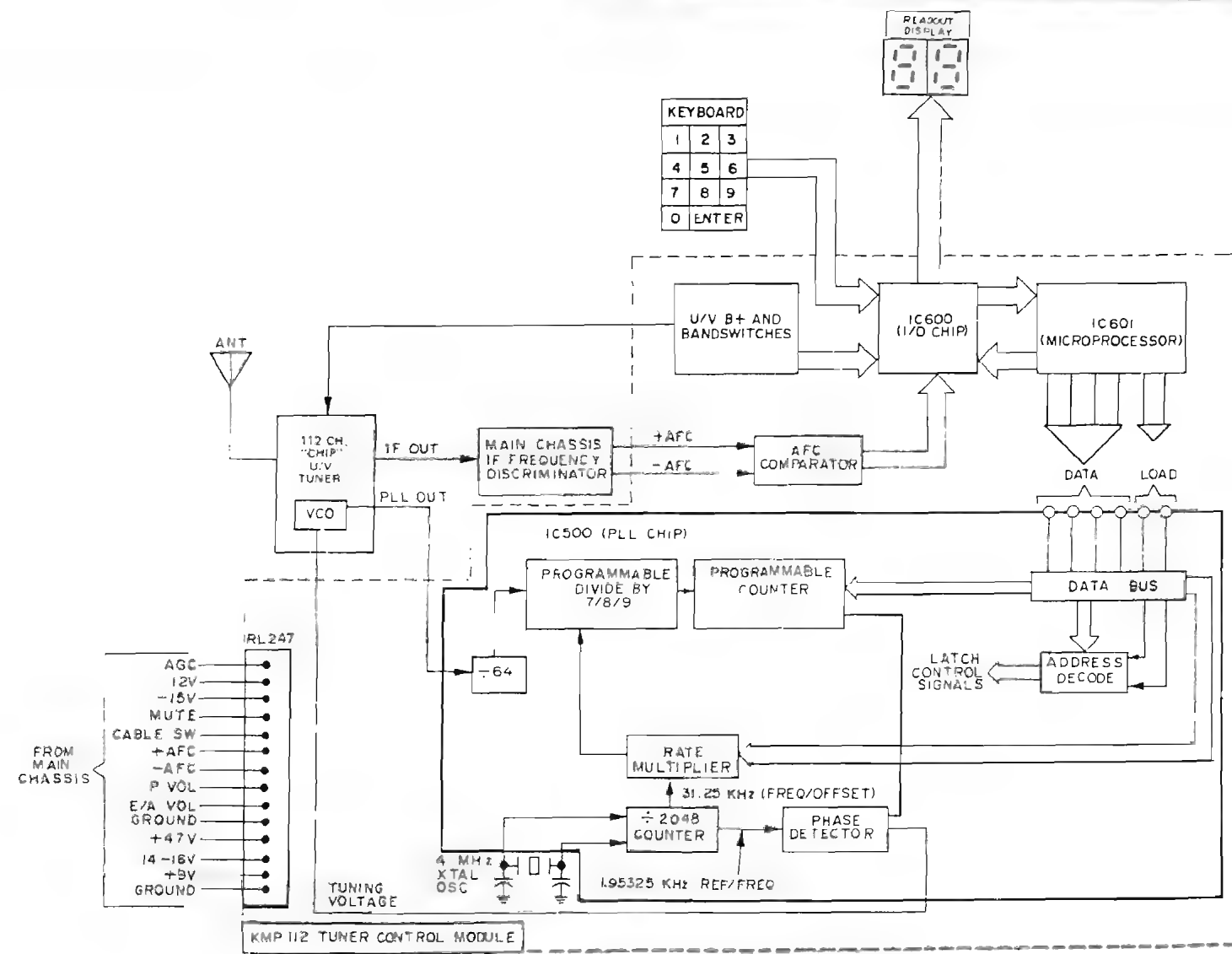


KEYBOARD
(RL/PG251)

LED READOUT DISPLAY
RL/PG241



KMP112 SYSTEM COMPONENT ASSEMBLIES



KMP112 TUNING SYSTEM BLOCK DIAGRAM

KMP112 SYSTEM TROUBLESHOOTING INFORMATION

General: In order to troubleshoot the KMP 112 Ch. electronic tuning system more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable.

Power Supplies

1. Do not unplug, but do check all voltages at RL/PG247.

2. Check RL231, pin 4 for +15V Standby Supply.

3. Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Troubleshooting Order

In order of probability after checking power supplies, wires, cable switch, check:

1. Tuner/Bandswitch transistors
2. Microprocessor (IC601)
3. Keyboard
4. IC600 (I/O) Chip
5. IC500 (PLL CHIP)

Categorized Symptoms

- **Dark Raster (LED Readout Display OK)**
Check U/V Tuner
- **Snowy Raster (UHF or VHF only, VHF Hi/Low or Cable only)**
Check Bandswitch Transistors
- **No Channel, No Keyboard Operation**
Check Microprocessor (IC601)
- **No Last Channel Memory when set is switched OFF and back ON.**
Check Microprocessor (IC601)
- **Readout Display OK, but Channels Off-Frequency**
Check Bandswitch voltage, is OK, check IC500 (PLL Chip).

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microprocessor.

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O), or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry, be at fault.

Check the IF per Main Chassis troubleshooting chart. If OK, PROCEED TO KMP ELECTRONIC TUNING TROUBLESHOOTING FOR POSSIBLE SOLUTION TO THE PROBLEM.

U/V TUNER CHECK. (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels. CH 1=28V, 8=20V, 13=19V, 33=6.5V and 82=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

KMP112 TUNING SYSTEM REPLACEMENT PARTS LIST

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C232	EP31X147	47uf, +50-10%, 180V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
★ R234	EP14X296	100 ohm, 5%, 1/2W, Carbon

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 Terminal, 9V Regulator

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon

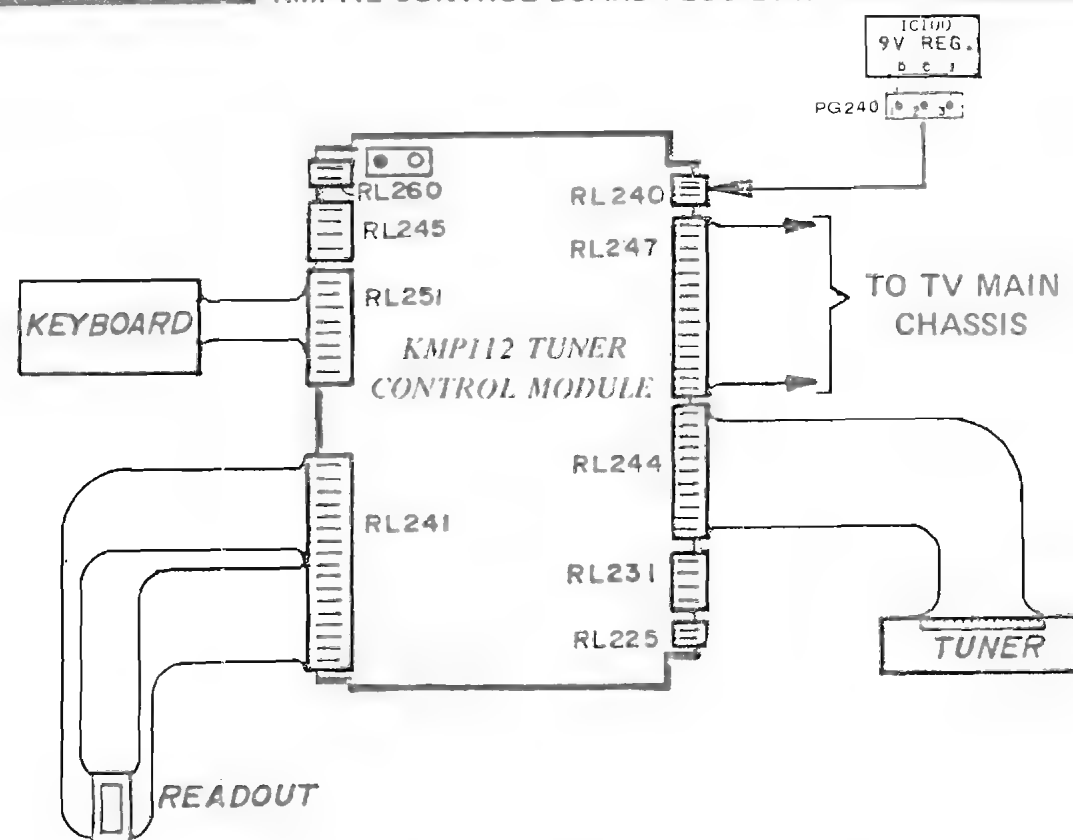
COIL

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP92X107	BRACKET-KMP
	EP8X60	CABLE-Antenna
	EP8X125	CABLE-KMP E
	EP41X135	CHANNEL NUM
RL1	EP8X93	CONNECTOR-5
RL3	EP8X71	CONNECTOR-6
RL9	EP8X90	CONNECTOR-3
RL10	EP8X94	CONNECTOR-4
RL212	EP8X92	CONNECTOR-8
RL250	EP8X43	CONNECTOR-2
RL251	EP8X92	CONNECTOR-8
	EP93X185	KEYBOARD-Ch
	EP93X446	KMP112 CONT
	EP34X41	SOCKET-IC10
★ EP93X415		UHF/VHF TUN

KMP112 CONTROL BOARD PLUG LOCATIONS



KMP112 CONTROL BOARD PLUG LOCATIONS

KMP112 TUNER CONTROL BOARD (EP93X446)

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X226	Microcomputer

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q502	EP15X109	DARLINGTON, NPN, Silicon
Q503	EP15X87	Loop Filter Amp, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q615	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	10 Volt, Zen
Y108	EP16X152	5 Volt, Zen
Y109	EP16X32	30 Volt, Zen
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	6.2 Volt, Ze
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	30 Volt, Zen

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15uh,
L501	EP36X136	CHOKE-15uh,
L502	EP36X136	CHOKE-15uh,

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PC CHASSIS

KMP112 SYSTEM TROUBLESHOOTING INFORMATION

- Categorized Symptoms**
- Dark Raster (LED Readout Display OK)
Check U/V Tuner
 - Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
Check Bandswitch Transistors
 - No Channel, No Keyboard Operation
Check Microprocessor (IC601)
 - No Last Channel Memory when set is switched OFF and back ON.
Check Microprocessor (IC601)
 - Readout Display OK, but Channels Off-Frequency
Check Bandswitch voltage, is OK, check IC500 (PLL Chip).

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microprocessor

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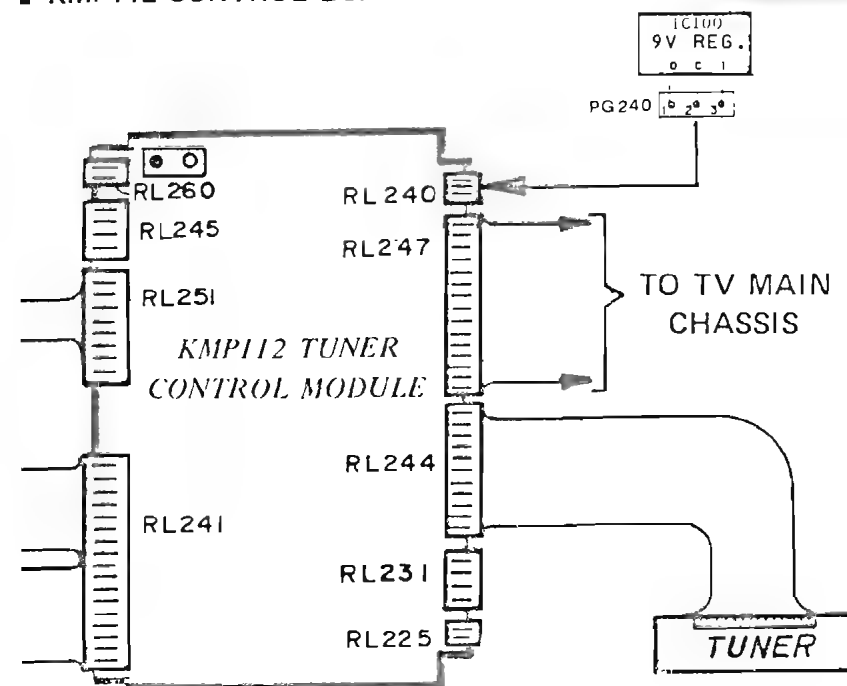
If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

KMP112 TUNING SYSTEM REPLACEMENT PARTS LIST

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REF. NO.	PART NO.	DESCRIPTION
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RESISTORS		
REF. NO.	PART NO.	DESCRIPTION
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
★ R234	EP14X296	100 ohm, 5%, 1/2W, Carbon
INTEGRATED CIRCUIT		
REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 Terminal, 9V Regulator
DIODE		
REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon
COIL		
REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOK-220uh, 10%

MISCELLANEOUS		
REF. NO.	PART NO.	DESCRIPTION
RL1	EP92X107	BRACKET-KMP Mounting, Plastic
RL3	EP8X60	CABLE-Antenna Bracket To Tuner
RL9	EP8X125	CABLE-KMP Board To Tuner
RL10	EP41X135	CHANNEL NUMBER DISPLAY READOUT
RL212	EP8X93	CONNECTOR-5 Pos.
RL250	EP8X71	CONNECTOR-6 Pos.
RL251	EP8X90	CONNECTOR-3 Pos.
	EP8X94	CONNECTOR-4 Pos.
	EP8X92	CONNECTOR-8 Pos.
	EP8X43	CONNECTOR-2 Pins
	EP8X92	CONNECTOR-8 Pos.
	EP93X185	KEYBOARD-Channel Select
	EP93X446	KMP112 CONTROL BOARD-Complete
	EP34X41	SOCKET-IC100
	★ EP93X415	UHF/VHF TUNER

KMP112 CONTROL BOARD PLUG LOCATIONS



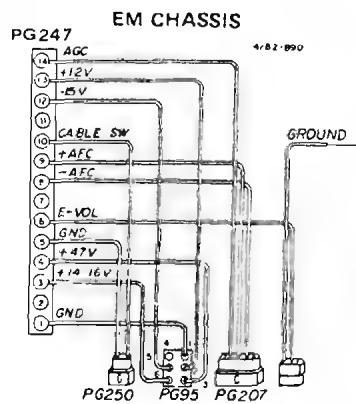
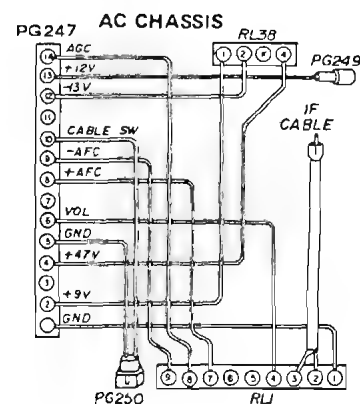
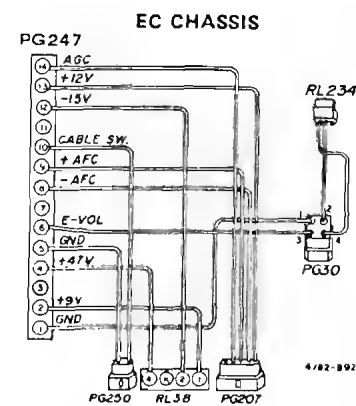
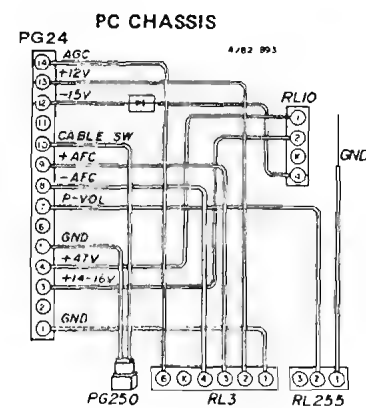
KMP112 TUNER CONTROL BOARD (EP93X446)

INTEGRATED CIRCUITS		
REF. NO.	PART NO.	DESCRIPTION
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Q503	EP15X87	Loop Filter Amp, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q615	EP15X48	PNP, Silicon
DIODES		
REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	10 Volt, Zener
Y108	EP16X152	5 Volt, Zener
Y109	EP16X32	30 Volt, Zener
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	6.2 Volt, Zener
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	30 Volt, Zener
COILS		
REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOK-15uh, 10%
L501	EP36X136	CHOK-15uh, 10%
L502	EP36X136	CHOK-15uh, 10%

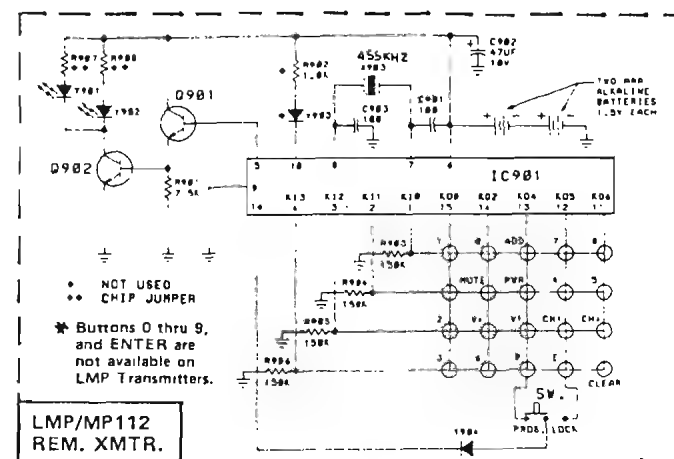
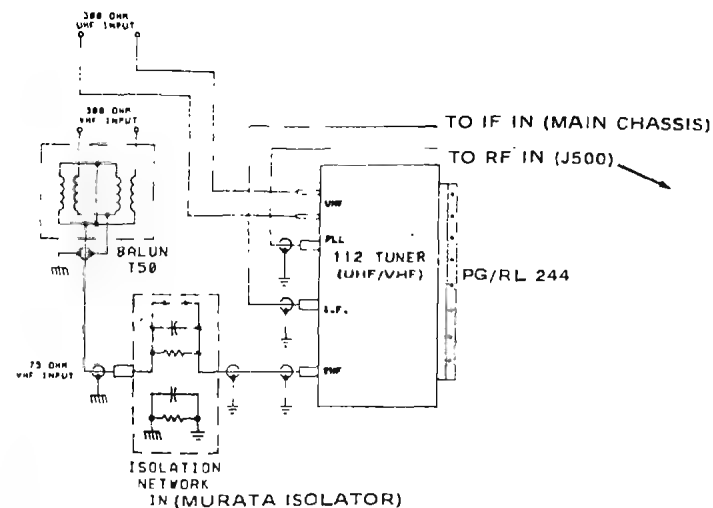
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OUT

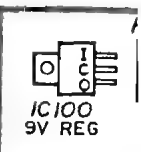
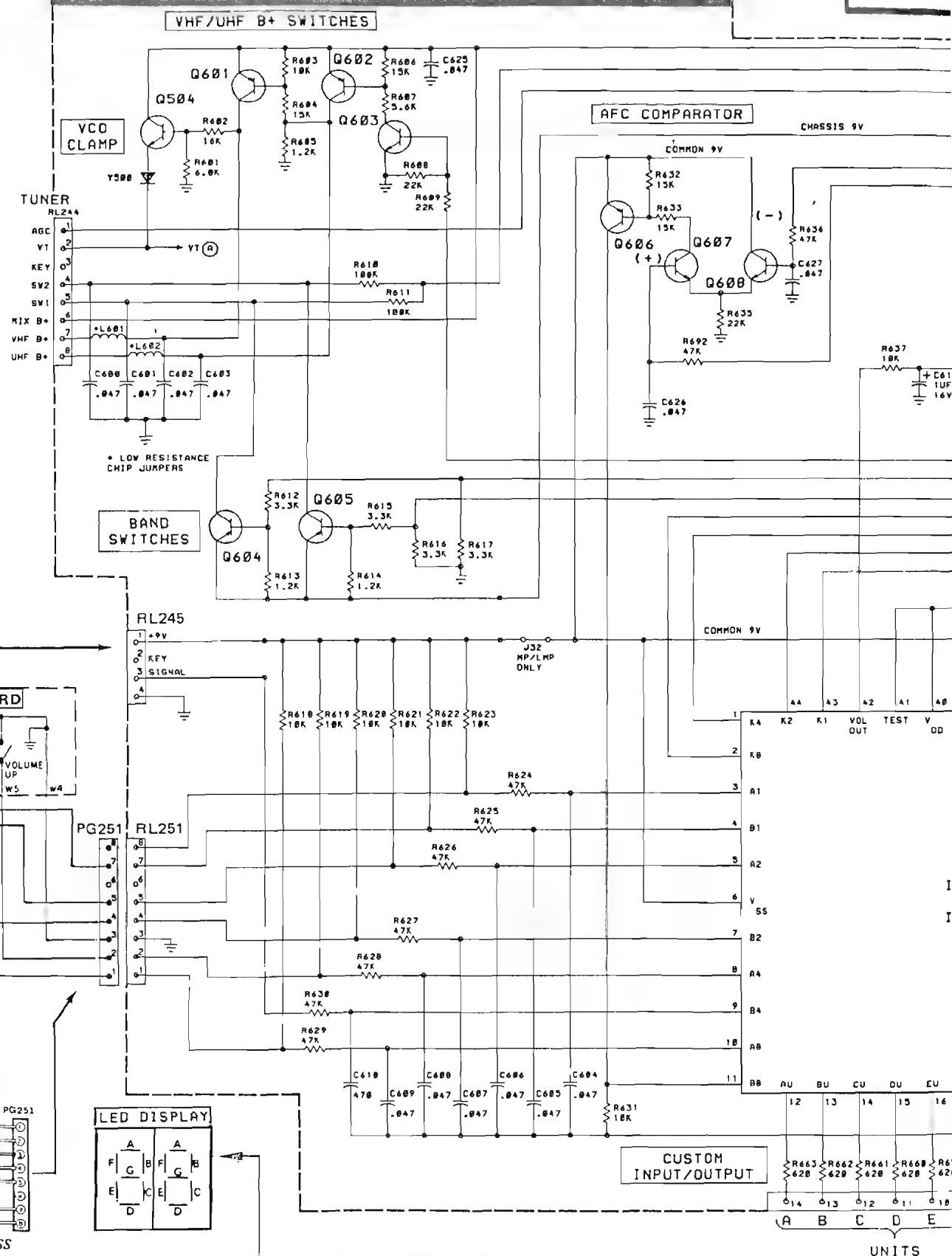
KMP112 CONTROL BOARD PLUG LOCATIONS



PC, EC, AC, AND EM CHASSIS INTERFACE CONNECTIONS TO 112 CHANNEL TUNER CONTROL MODULE

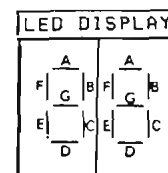
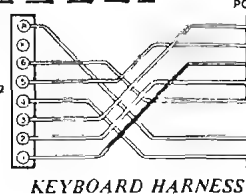
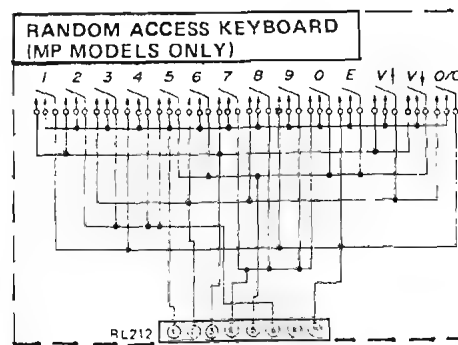
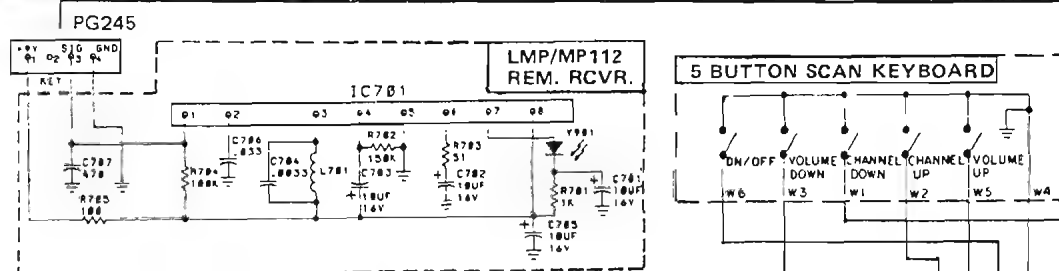
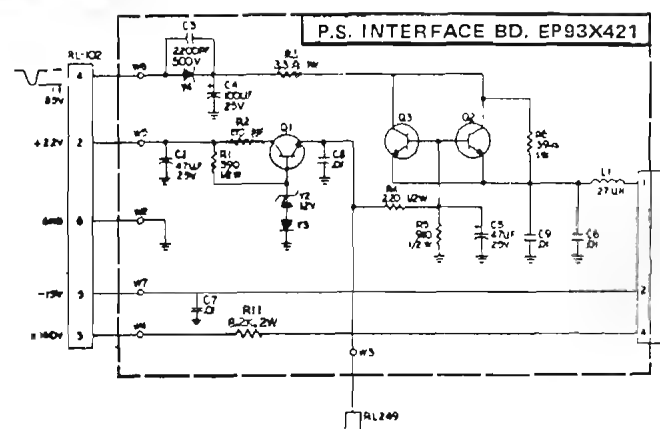
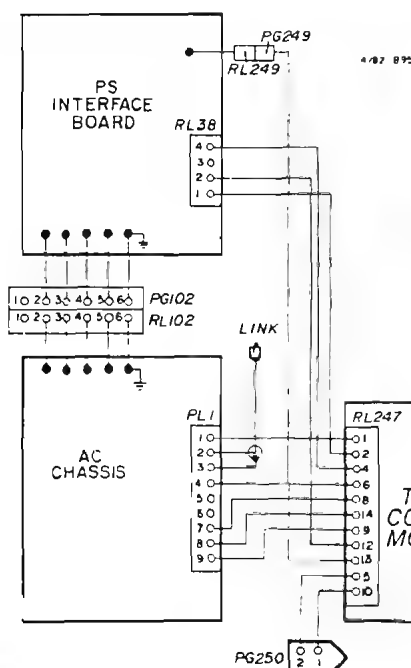


LMP/MP112 TUNER CONTROL MODULE



NOTES

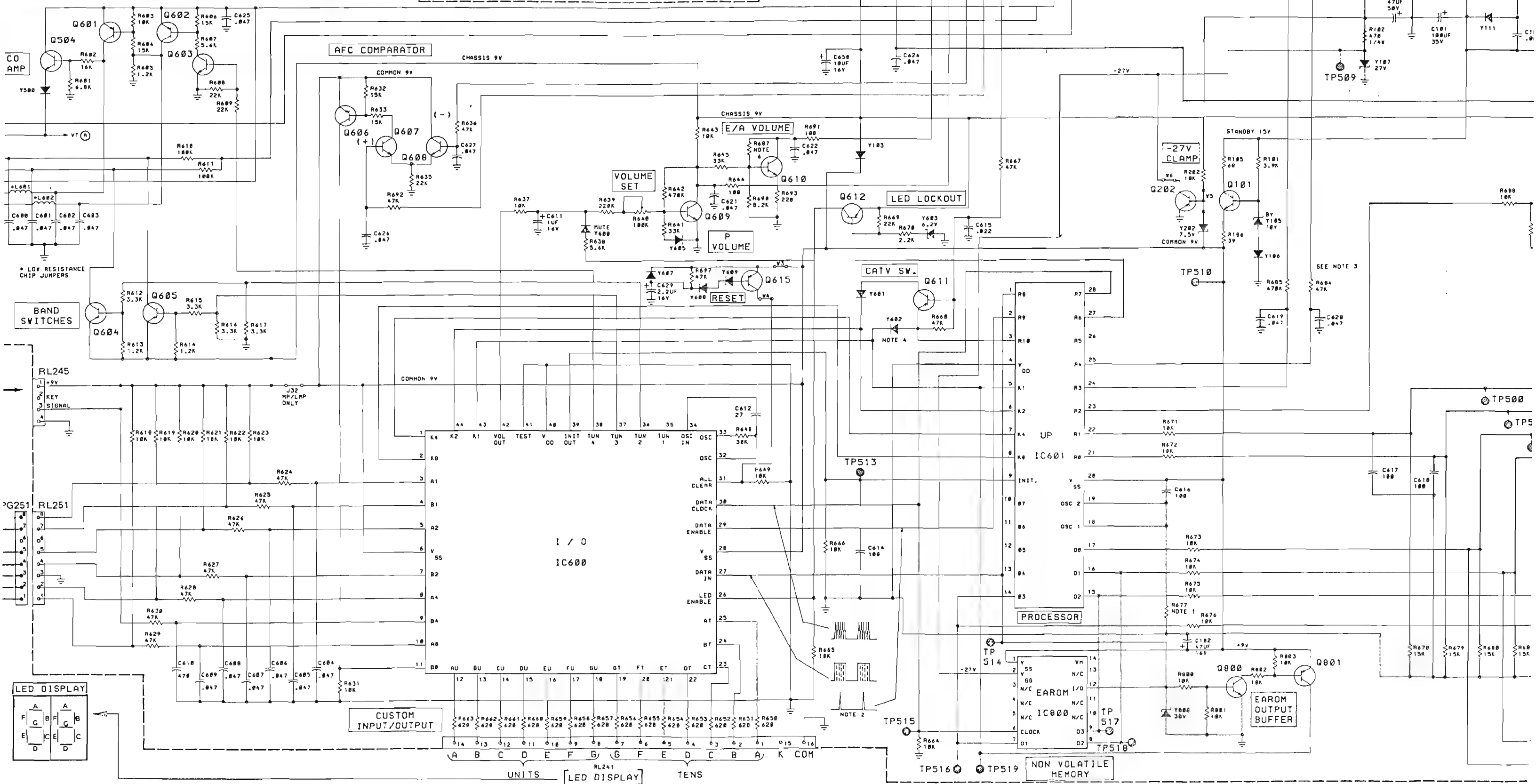
1. SELECT FOR: TMS1100 43K FOR LMP/S.E.T. TMS1400 38K FOR MP.
2. SIGNAL WAVEFORMS SET ON LOCKED ON CHANNEL.
3. OPTION CIRCUIT NOT INSTALLED ON SOME MODELS.
4. REMOVE Y602 FOR 5 BUTTON BOARD ON MP.
5. UNLESS OTHERWISE NOTED, ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS; ALL VALUES GREATER THAN 1 ARE IN PICO-FARADS.
6. 36K-MP 22K-LMP/S.E.T.



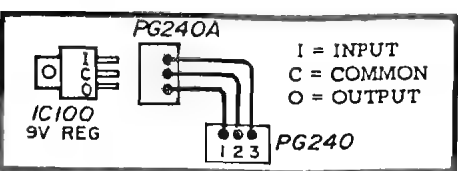
AC CHASSIS PWR. SUPPLY INTERFACE TO TUNER CONTROL MODULE

MP/MP112 TUNER/CONTROL MODULE

VHF/UHF B+ SWITCHES



† IC100 9V REGULATOR USED IN PC & EM CHASSIS MODELS ONLY.



9V REG.
SET CONNECTOR
E/A P CABLE
VOL VOL AFC AFC SV. MUTE 15V 12V AGC

OPTION
CONTROL CONTROL
MP ONLY

POWER

BAND SWITCHES

LED DISPLAY

CUSTOM INPUT/OUTPUT

NON VOLATILE MEMORY

PROCESSOR

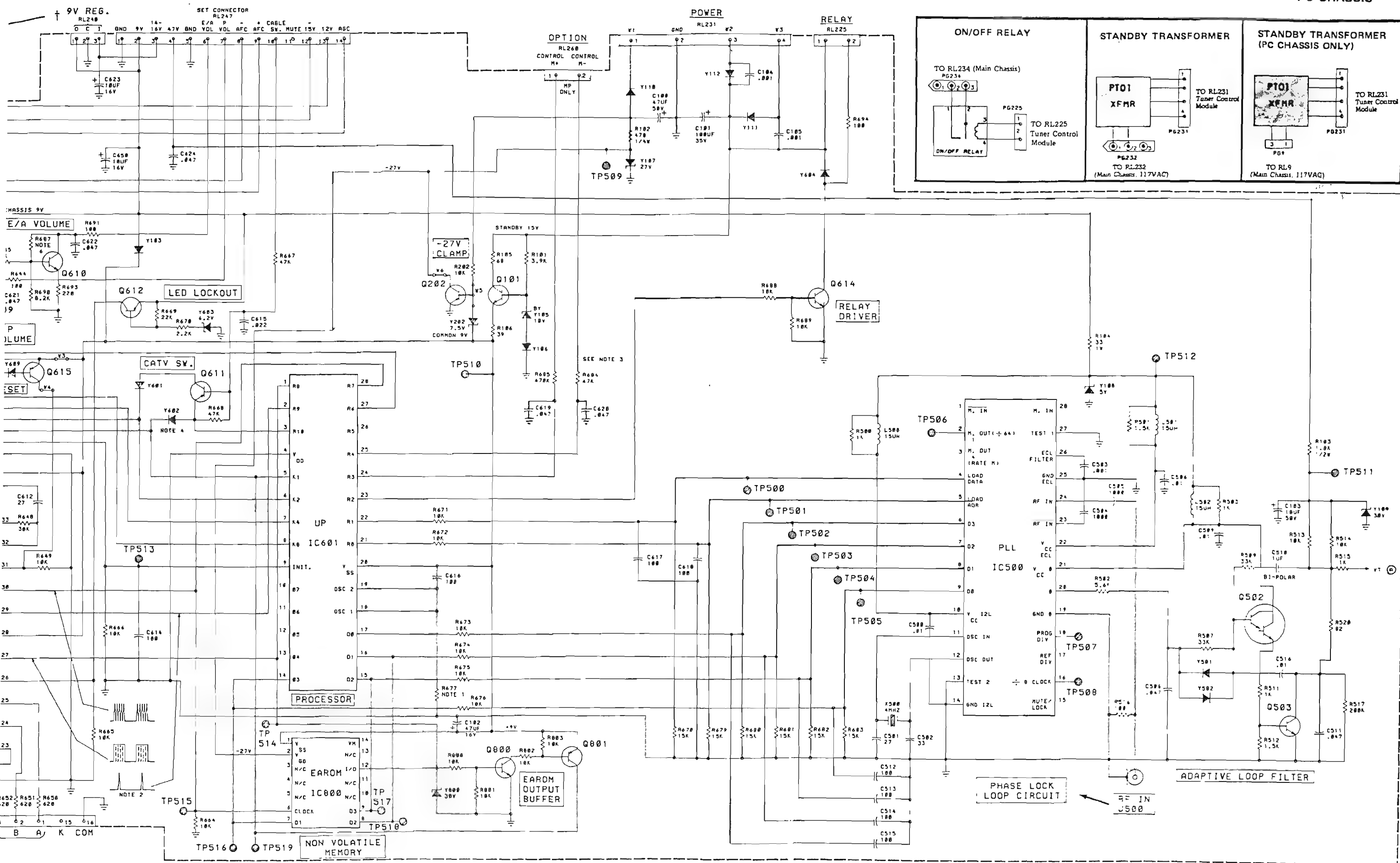
EAROM OUTPUT BUFFER

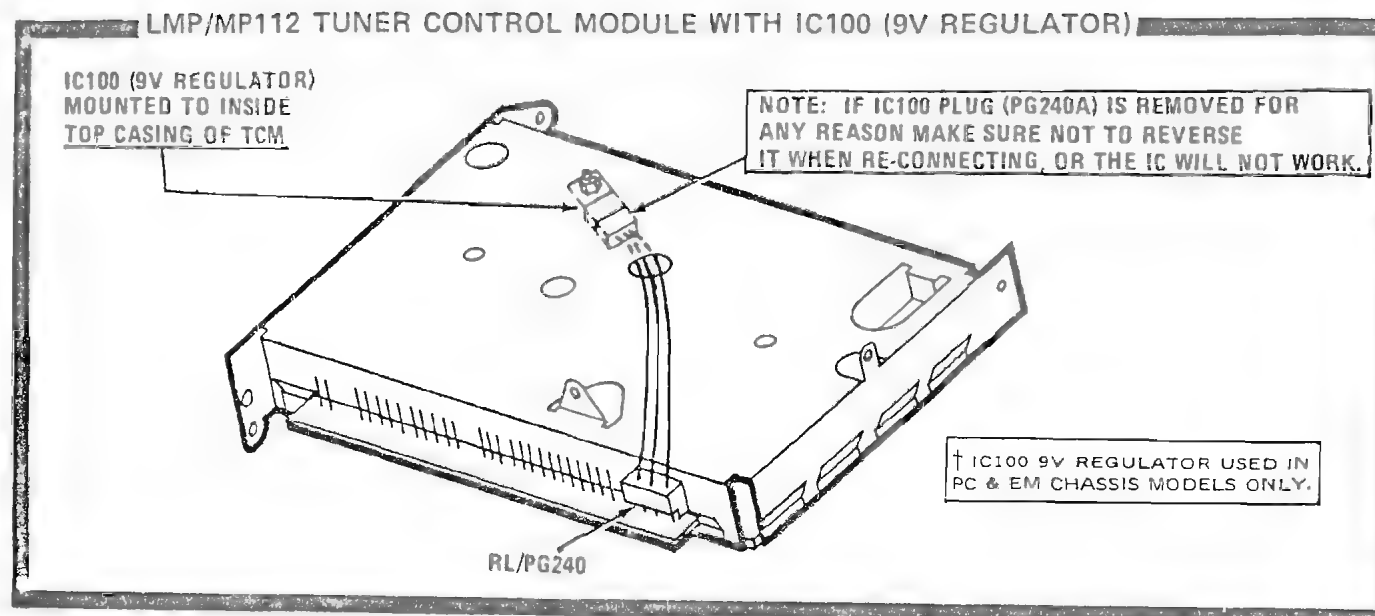
IC600

IC601

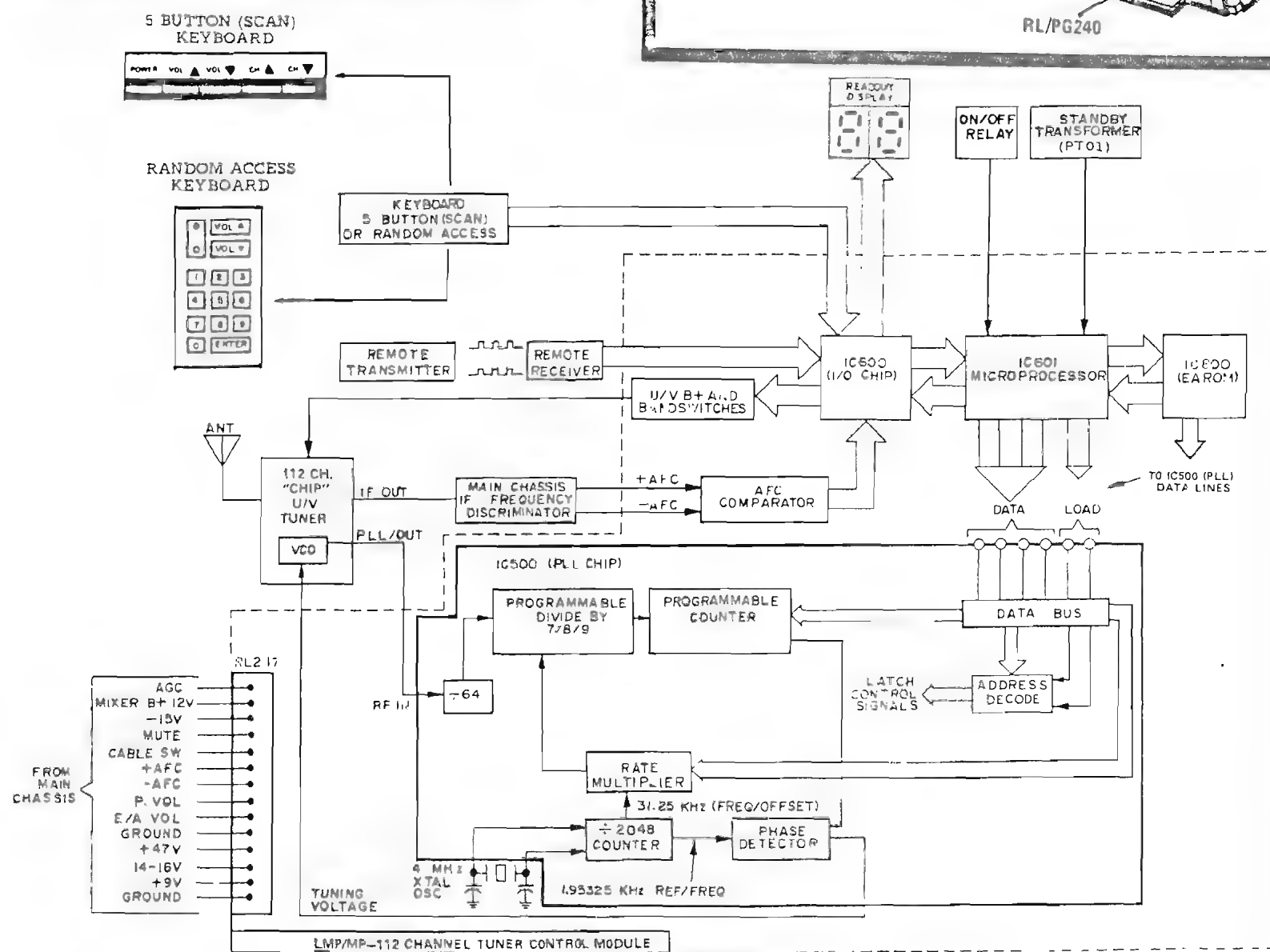
IC800

UNITS [LED DISPLAY] TENS





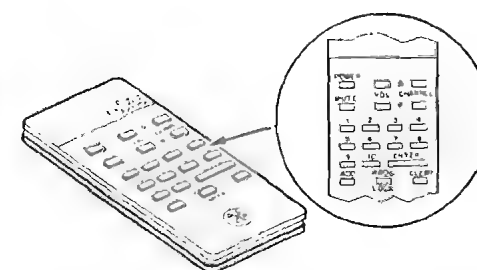
LMP/MP112 SYSTEM COMPONENT ASSEMBLIES



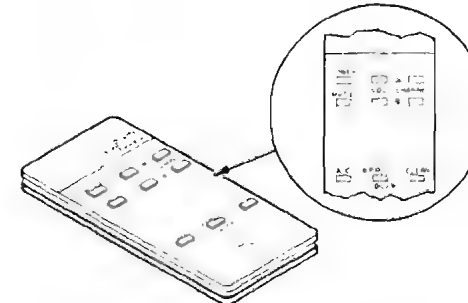
LMP/MP-112 CHANNEL TUNING SYSTEMS BLOCK DIAGRAM



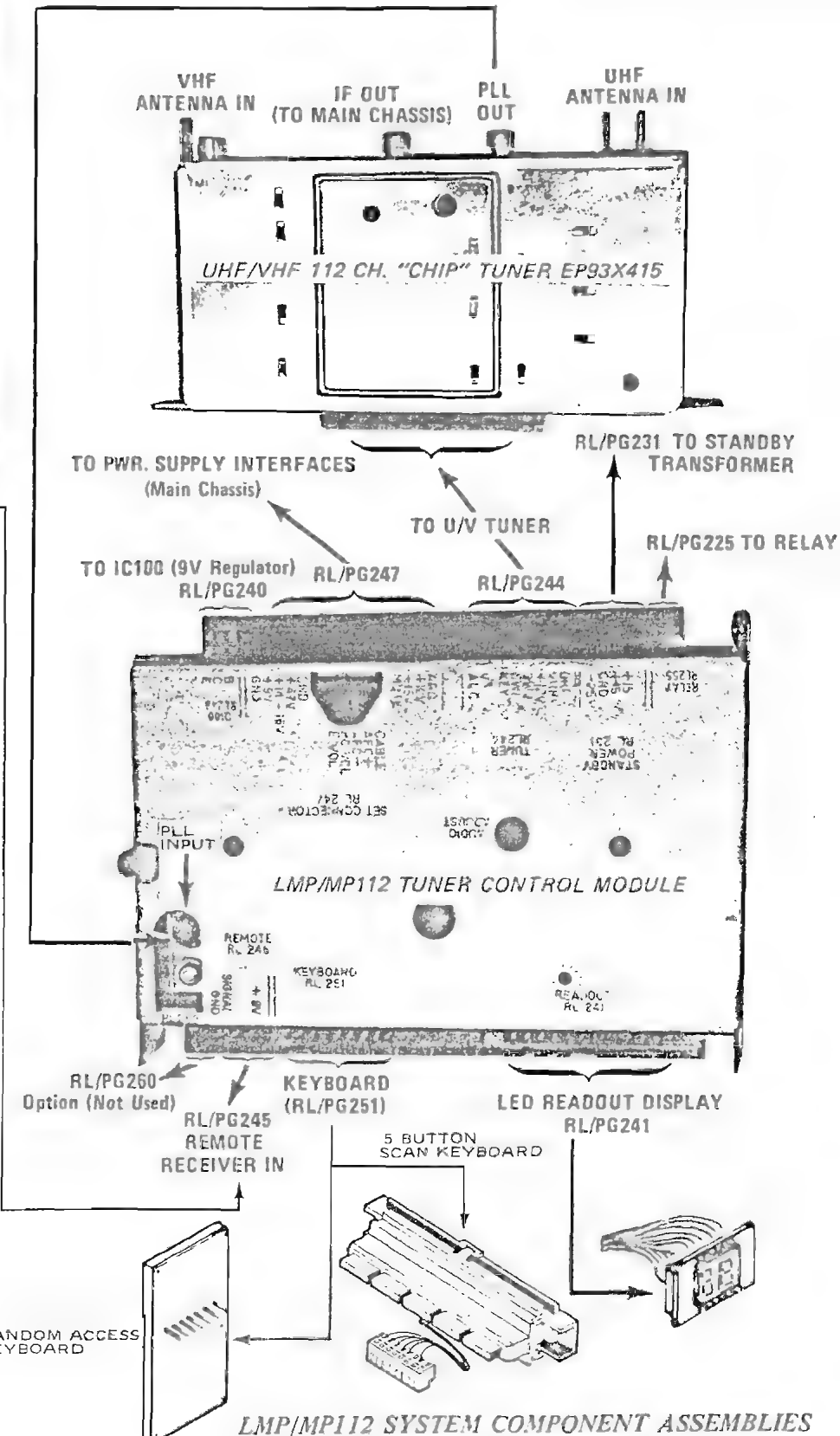
LMP/MP-112 REM. RCVR.



MP112 REM. XMTR.



LMP112 REM. XMTR.



LMP/MP112 SYSTEM TROUBLESHOOTING INFORMATION

General In order to troubleshoot the 112 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.

Power Supplies

1. Do not unplug, but do check all voltages at RL/PG247 (Check +15V only if IC regulator is included with tuner control module).
2. Check RL231, pin 1 for 30 to 38VAC (supply for B minus (-) 27V supply to IC800, EAROM).
3. Check RL225, pin 1 for ON/OFF Relay B+ 13 to 17VDC.
4. Check RL245, pin 1 for Remote Receiver B+ 7.5 to 8.5 VDC.

NOTE:

RL225 Pin 1, +15 V must be correct before the set will switch on. If supplies are OK, the On/OFF relay may be forced on by grounding pin 2 of RL/PG225 through a 100 ohm, 1/2 watt resistor. Replace Q614 if necessary, otherwise inspect TV power supplies.

5. Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Troubleshooting Order

In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check

1. Tuner/Bandswitch transistors
2. Microprocessor (IC601)
3. Keyboard
4. IC600 (I/O) Chip
5. IC800 (EAROM)
6. IC500 (PLL CHIP)

Categorized Symptoms

- No Remote control (Keyboard works OK)
(Note: LMP/MP Keyboard follows favorite/sequential action of transmitter button keybd.)
Check Transmitter
- Dark Raster (LED Readout Display OK)
Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Low or Cable only)
Check Bandswitch Transistors
- No Channel, No Keyboard or Remote operation with Relay forced ON (LMP/MP)
Check Microprocessor (IC601)
- No Last Channel or Favorite Channel Memory during power failure
Check IC800
- Readout Display OK, but Channels Off-Frequency
Check Bandswitch voltage, if OK, check IC500 (PLL Chip)

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microprocessor.

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O), or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry, be at fault.

Check the IF per Main Chassis troubleshooting chart. If OK, PROCEED TO 112 ELECTRONIC TUNING TROUBLESHOOTING FOR POSSIBLE SOLUTION TO THE PROBLEM.

U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels: CH 1-28V, 6-20V, 13-19V, 33-55V and 82-26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

LMP/MP112 TUNING SYSTEMS REPLACEMENT PARTS LIST

LMP112 TUNING SYSTEM**INTEGRATED CIRCUIT**

REF. NO.	PART NO.	DESCRIPTION
† IC100	EP84X230	3 Terminal 9V Regulator

COIL & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOK-220uh, 10%
★ PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL1	EP92X106	BRACKET-Keyboard Mounting, Plastic
RL7	EP8X60	CABLE-Antenna Bracket To Tuner
RL9	EP8X124	CABLE-LMP112 Board To Tuner
	EP41X135	CHANNEL READOUT DISPLAY-Green
	EP8X93	CONNECTOR-5 Pos.
	EP8X68	CONNECTOR-2 Pos.
	EP8X90	CONNECTOR-3 Pos.
	EP62X161	KEYBOARD-On/Off, Vol. Channel Sel.
	EP93X445	LMP112 CONTROL BOARD-Complete
	EP93X417	REMOTE CONTROL RECEIVER
	EP62X164	REMOTE CONTROL TRANSMITTER ASM
★	EP41X130	RELAY
★	EP93X394	RELAY CIRCUIT BOARD-Bare
	EP34X41	SOCKET-IC100
★	EP93X415	UHF/VHF TUNER
	EP93X421	POWER SUPPLY INTERFACE CKT. BOARD (AC CHASSIS ONLY)

MP112 TUNING SYSTEM**FUSE**

REF. NO.	PART NO.	DESCRIPTION
★ F95	EP10X28	FUSE-1/4 amp.

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
† IC100	EP84X230	3 Terminal 9V

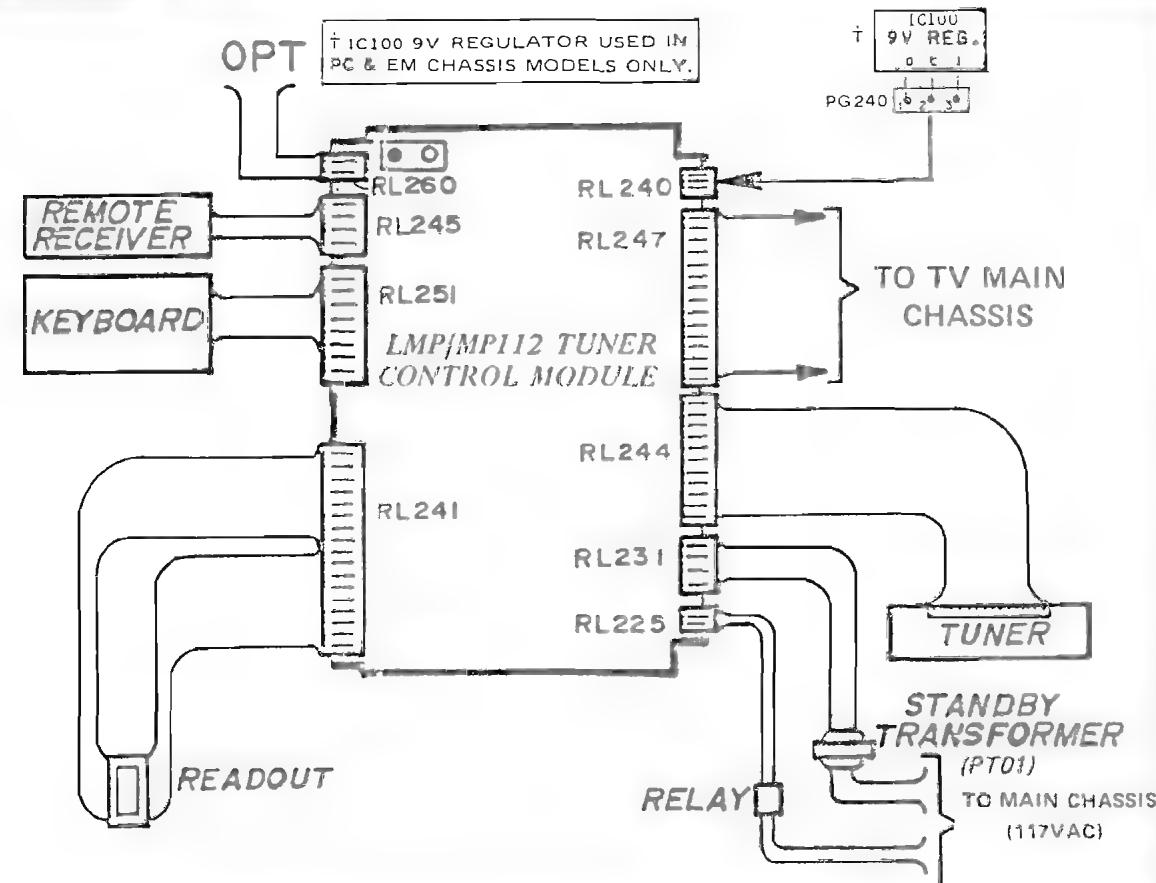
TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
★ PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X97	CABLE-MP112 To
	EP8X108	CABLE-Antenna
	EP3X40	CLIP-Channel
	EP3X50	CLIP-Keyboard
RL212	EP8X92	CONNECTOR-8 Pos.
RG232	EP9X41	CONNECTOR-3 Pin
PG234	EP8X41	CONNECTOR-3 Pin
RL251	EP8X92	CONNECTOR-8 Pos.
	EP41X136	CHANNEL READOUT
	EP62X138	KEYBOARD-On/Off
	EP93X444	MP112 CONTROL
★	EP41X129	RELAY
	EP93X417	REMOTE RECEIVER
	EP62X165	REMOTE TRANSMIT
	EP34X41	SOCKET-IC100
★	EP93X415	UHF/VHF TUNER

LMP/MP112 CONTROL BOARD PLUG LOCATIONS



LMP/MP112 CONTROL BOARD PLUG LOCATIONS

POWER SUPPLY INTERFACE BOARD (AC CHASSIS ONLY) EP93X421**RESISTORS**

REF. NO.	PART NO.	DESCRIPTION
R1	ES14X57	390 ohm, 5%, 1/2W, Carbon
★ R2	EP14X167	150 ohm, 5%, 1W, Metal Oxide
★ R3	EP14X151	3.3 ohm, 5%, 1W, Metal Oxide
R4	EP14X129	220 ohm, 5%, 1/2W, Carbon
R5	EP14X295	910 ohm, 5%, 1/2W, Carbon
★ R6	EP14X245	39 ohm, 5%, 1W, Metal Oxide
★ RL1	EP14X86	8.2K ohm, 5%, 2W, Metal Oxide

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q1	ES15X125	NPN, Silicon
Q2	ES15X125	NPN, Silicon
Q3	ES15X125	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y2	EP16X36	Zener
Y3	EP57X4	Rectifier, Silicon
Y4	EP57X5	Rectifier, Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L1	EP36X144	CHOK-27uh, 5%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
† IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X223	Microcomputer (LMP112 ONLY)
IC601	EP84X225	Microcomputer (MP112 ONLY)
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	DARLINGTON, NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X43	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DISC
Y103	EP57X4	Rect
Y105	EP16X155	Zene
Y106	ES16X27	Sili
Y107	EP16X156	Zene
Y108	EP16X152	Zene
Y109	EP16X32	Zene
Y110	EP57X4	Rect
Y111	EP57X4	Rect
Y112	EP57X4	Rect
Y202	EP16X12	7.5V
Y500	ES16X27	Sili
Y501	ES16X27	Sili
Y502	ES16X27	Sili
Y600	ES16X27	Sili
Y601	ES16X27	Sili
Y602	ES16X27	Sili
Y603	EP16X153	Zene
Y604	ES16X27	Sili
Y605	ES16X27	Sili
Y607	ES16X27	Sili
Y608	ES16X27	Sili
Y609	ES16X27	Sili
Y800	EP16X32	Zene

COILS

REF. NO.	PART NO.	DISC
L500	EP36X136	CHOK
L501	EP36X136	CHOK
L502	EP36X136	CHOK

† IC100 9V REGULATOR U
PC & EM CHASSIS MODELS

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

LMP/MP112 SYSTEM TROUBLESHOOTING INFORMATION

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Troubleshooting Order

In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check

1. Tuner/Bandswitch transistors
2. Microprocessor (IC601)
3. Keyboard
4. IC600 (I/O) Chip
5. IC800 (EARM) Chip
6. IC500 (PLL CHIP)

Categorized Symptoms

- No Remote control (Keyboard works OK)
(Note: LMP/MP Keyboard follows favorite/sequential action of transmitter button keybd.)
Check Transmitter
- Dark Raster (LED Readout Display OK)
Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Low or Cable only)
Check Bandswitch transistors
- No Channel, No Keyboard or Remote operation with Relay forced ON (LMP/MP)
Check Microprocessor (IC601)
- No Last Channel or Favorite Channel Memory during power failure
Check IC800
- Readout Display OK, but Channels Off-Frequency
Check Bandswitch voltage or check IC500 (PLL Chip)

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard IC600 or the Microprocessor.

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O) or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry be at fault.

Check the IF per Main Chassis troubleshooting chart. If OK, PROCEED TO 112 ELECTRONIC TUNING TROUBLESHOOTING FOR POSSIBLE SOLUTION TO THE PROBLEM.

U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels. CH 1=28V, 6=20V, 13=19V, 33=5.5V and 82=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

LMP/MP112 TUNING SYSTEMS REPLACEMENT PARTS LIST

LMP112 TUNING SYSTEM

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
† IC100	EP84X230	3 Terminal 9V Regulator

COIL & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	EP36X82	CHOKE-220uh, 10Z
★ PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL1	EP92X106	BRACKET-Keyboard Mounting, Plastic
RL7	EP8X60	CABLE-Antenna Bracket To Tuner
RL9	EP8X124	CABLE-LMP112 Board To Tuner
	EP41X135	CHANNEL READOUT DISPLAY-Green
	EP8X93	CONNECTOR-5 Pos.
	EP8X68	CONNECTOR-2 Pos.
	EP8X90	CONNECTOR-3 Pos.
	EP62X161	KEYBOARD-On/Off, Vol., Channel Sel
	EP93X445	LMP112 CONTROL BOARD-Complete
	EP93X417	REMOTE CONTROL RECEIVER
	EP62X164	REMOTE CONTROL TRANSMITTER ASM
	★ EP41X130	RELAY
	★ EP93X394	RELAY CIRCUIT BOARD-Bata
	EP34X41	SOCKET-IC100
	★ EP93X415	UHF/VHF TUNER
	EP93X421	POWER SUPPLY INTERFACE CKT. BOARD (AC CHASSIS ONLY)

MP112 TUNING SYSTEM

FUSE

REF. NO.	PART NO.	DESCRIPTION
★ F95	EP10X28	FUSE-1/4 amp, 250V, Fast Acting

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
† IC100	EP84X230	3 Terminal 9V Regulator

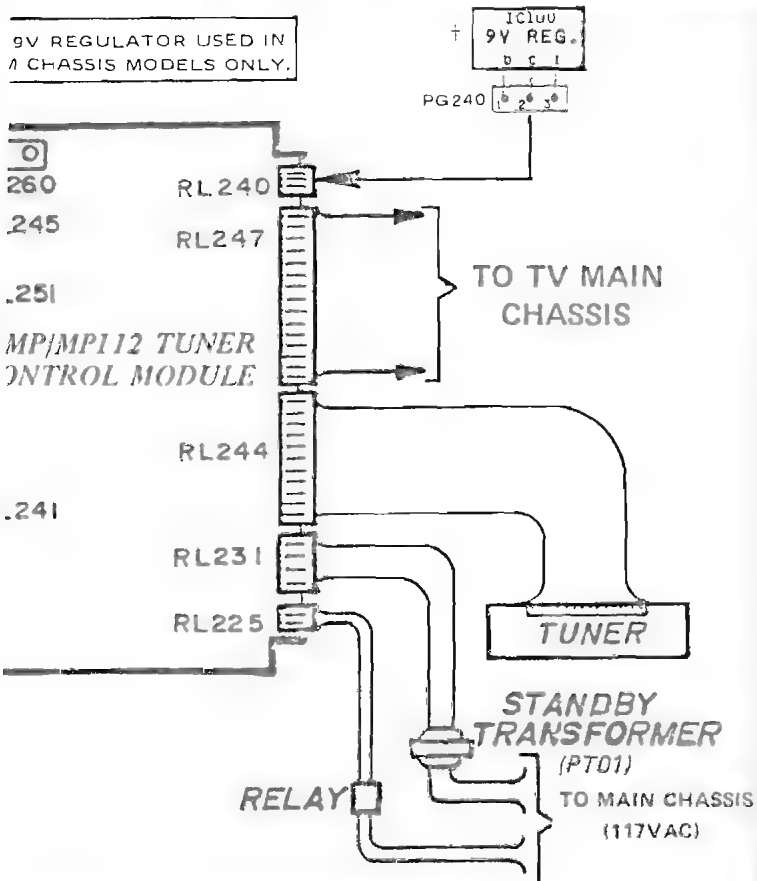
TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
★ PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X97	CABLE-MP112 To Tuner (11")
	EP8X108	CABLE-Antenna To Tuner (9")
	EP3X40	CLIP-Channel Readout Display Mtg.
	EP3X50	CLIP-Keyboard Mtg.
RL212	EP8X92	CONNECTOR-8 Pos.
RG232	EP9X41	CONNECTOR-3 Pins
PG234	EP8X41	CONNECTOR-3 Pins
RL251	EP8X92	CONNECTOR-8 Pos.
	EP41X136	CHANNEL READOUT DISPLAY-Green
	EP62X138	KEYBOARD-On/Off, Vol., & Channel Sel.
	★ EP93X444	MP112 CONTROL CIRCUIT BOARD
	★ EP41X129	RELAY
	EP93X417	REMOTE RECEIVER CIRCUIT BOARD
	EP62X165	REMOTE TRANSMITTER ASM
	EP34X41	SOCKET-IC100
	★ EP93X415	UHF/VHF TUNER

TUNER BOARD PLUG LOCATIONS



TUNER BOARD PLUG LOCATIONS

POWER SUPPLY INTERFACE BOARD (AC CHASSIS ONLY) EP93X421

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R1	ES14X57	390 ohm, 5%, 1/2W, Carbon
★ R2	EP14X167	150 ohm, 5%, 1W, Metal Oxide
★ R3	EP14X151	3.3 ohm, 5%, 1W, Metal Oxide
R4	EP14X129	220 ohm, 5%, 1/2W, Carbon
R5	EP14X295	910 ohm, 5%, 1/2W, Carbon
★ R6	EP14X245	39 ohm, 5%, 1W, Metal Oxide
★ R11	EP14X86	8.2K ohm, 5%, 2W, Metal Oxide

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q1	ES15X125	NPN, Silicon
Q2	ES15X125	NPN, Silicon
Q3	ES15X125	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y2	EP16X36	Zener
Y3	EP57X4	Rectifier, Silicon
Y4	EP57X5	Rectifier, Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L1	EP36X144	CHOKE-27uh, 5%

LMP112 TUNER CONTROL MODULE (EP93X445) AND MP112 TUNER CONTROL MODULE (EP93X444)

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Filter
† IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescale
IC600	EP84X222	Custom Interface
IC601	EP84X223	Microcomputer (LMP112 ONLY)
IC601	EP84X225	Microcomputer (MP112 ONLY)
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	DARLINGTON, NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener
Y108	EP16X157	Zener
Y109	EP16X32	Zener
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	7.5V, Zener
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener

COILS

REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15uh, 10Z
L501	EP36X136	CHOKE-15uh, 10Z
L502	EP36X136	CHOKE-15uh, 10Z

† IC100 9V REGULATOR USED IN PC & EM CHASSIS MODELS ONLY.

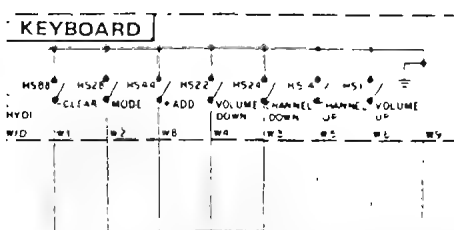
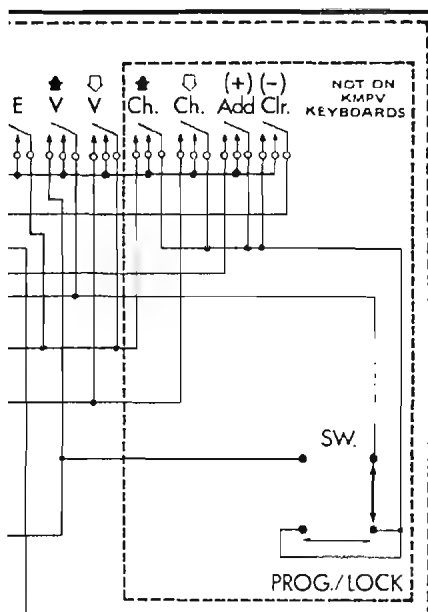
PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

73E261853-2

N (MAIN CHASSIS)
IN (J500)

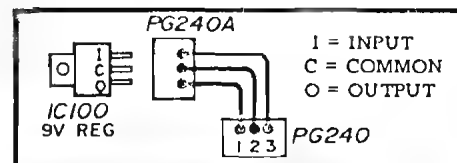
RECEIVING BAND	BAND I	BAND II	BAND III	BAND IV
SW1	-15V	-15V	-15V	-15V
SW2	-15V	-15V	-15V	-15V
VHF B+	+12V	+12V	+12V	+12V
MIXER B+	+12V	+12V	+12V	+12V
UHF B+	+12V	+12V	+12V	+12V
REC B MAX	0.5V	0.5V	0.5V	0.5V
TUNING VOLTAGE	0.5-20	0.5-20	0.5-20	0.5-20

UHF/VHF TUNER BANDING/VOLTAGE CHART

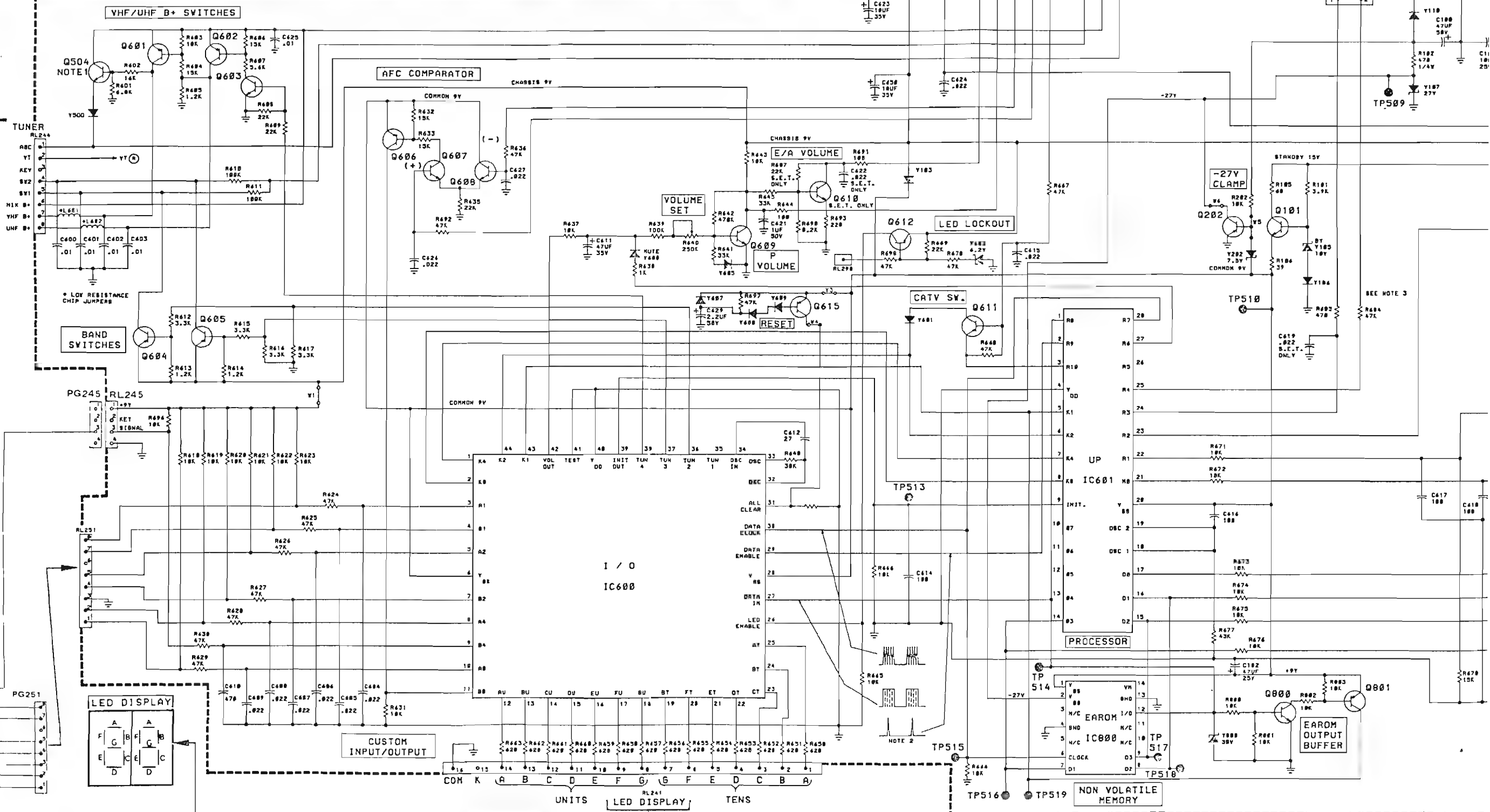


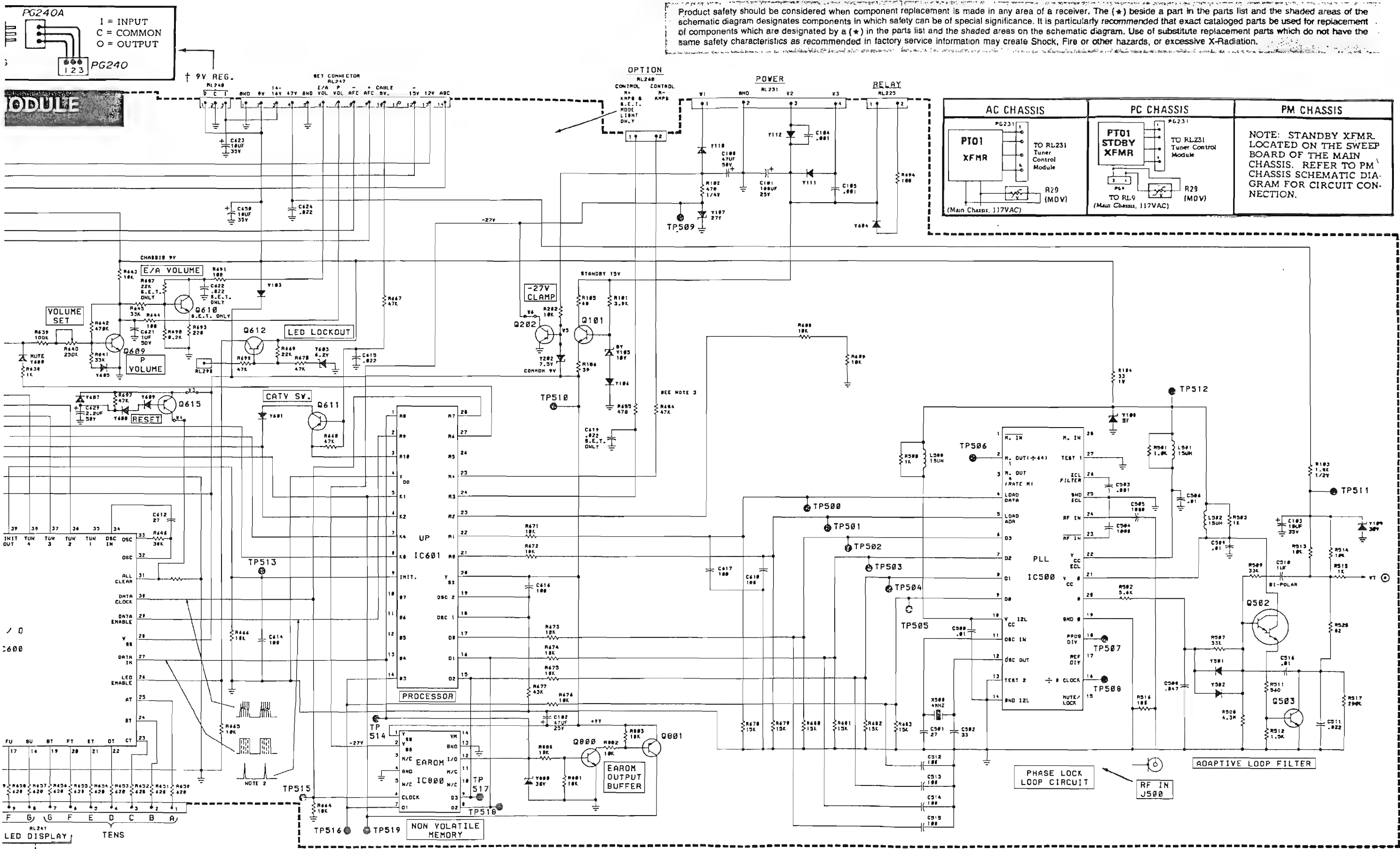
- NOTES
1. 112CHANNEL TCH ONLY NOT NEEDED ON 130 CHANNEL TCH.
 2. SIGNAL WAVEFORMS SET ON LOCKED ON CHANNEL.
 3. OPTION CIRCUIT NOT INSTALLED ON SOME MODELS.
 4. UNLESS OTHERWISE NOTED, ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS, ALL VALUES GREATER THAN 1 ARE IN PICO-FARADS.

† IC100 9V REGULATOR USED IN PC & PM CHASSIS MODELS ONLY.



SET/KMPV/KMPS-112/130 TUNER CONTROL MODULE





**SET/KMPV/KMPS-112/130 NON-REMOTE
ELECTRONIC TUNING SYSTEM**

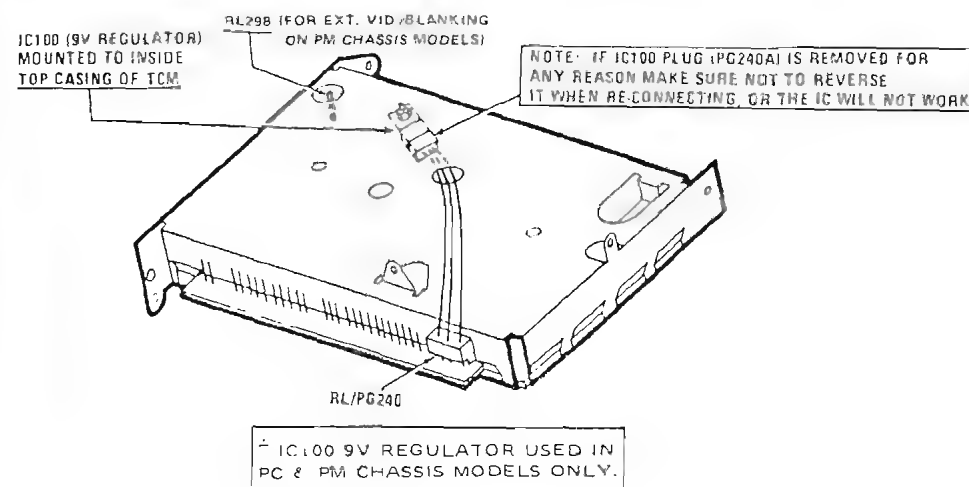
MINI-MANUAL

**SERVICE INFORMATION
FOR TECHNICIAN
USE ONLY**

**ACCESSIBLE FROM INSIDE
TV SET ONLY**

73E261761-5

SET/KMPV/KMPS-TUNER CONTROL MODULE WITH IC100 (9V REG.)



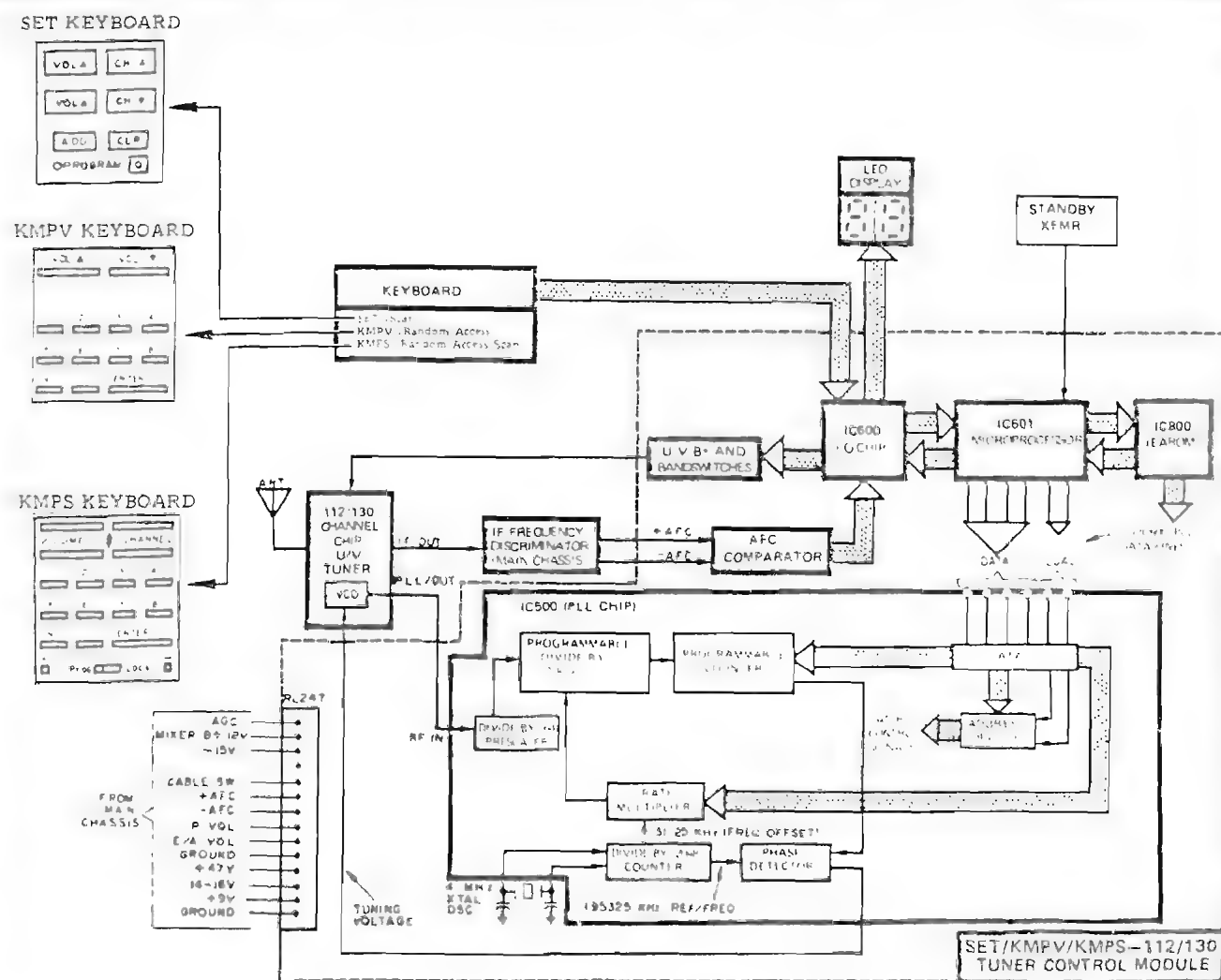
SET/KMPV/KMPS-112/130 TUNING SYSTEM ASSEMBLIES

SET/KMP

General.

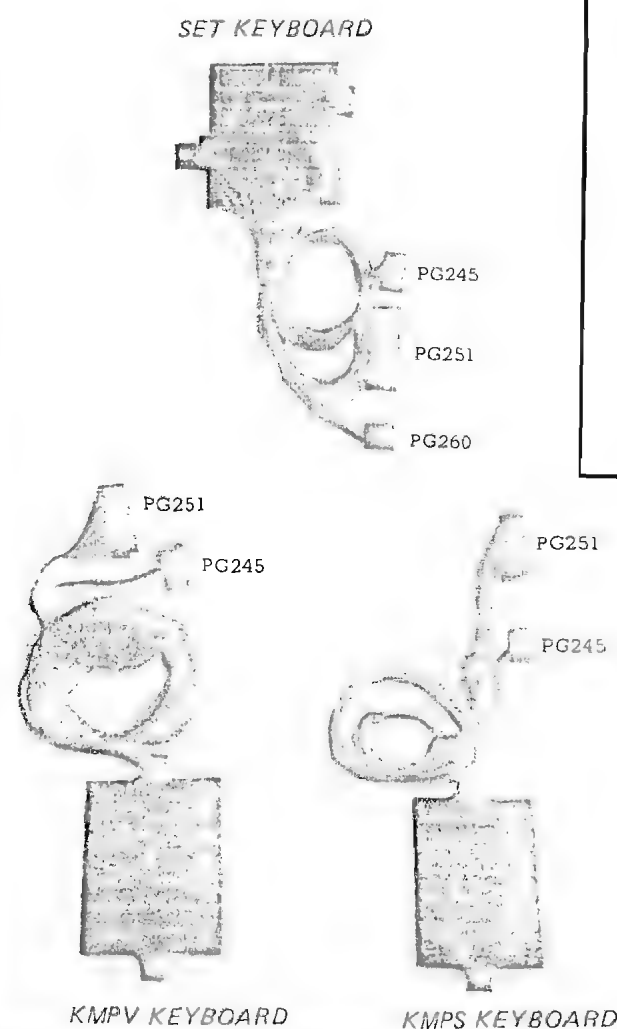
Power Supply
1. Do not unplug
RL/PG247
included with
2. Check RL23
B minus (-)
3. Check for
They are free

SET/KMPV/KMPS-112/130 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM



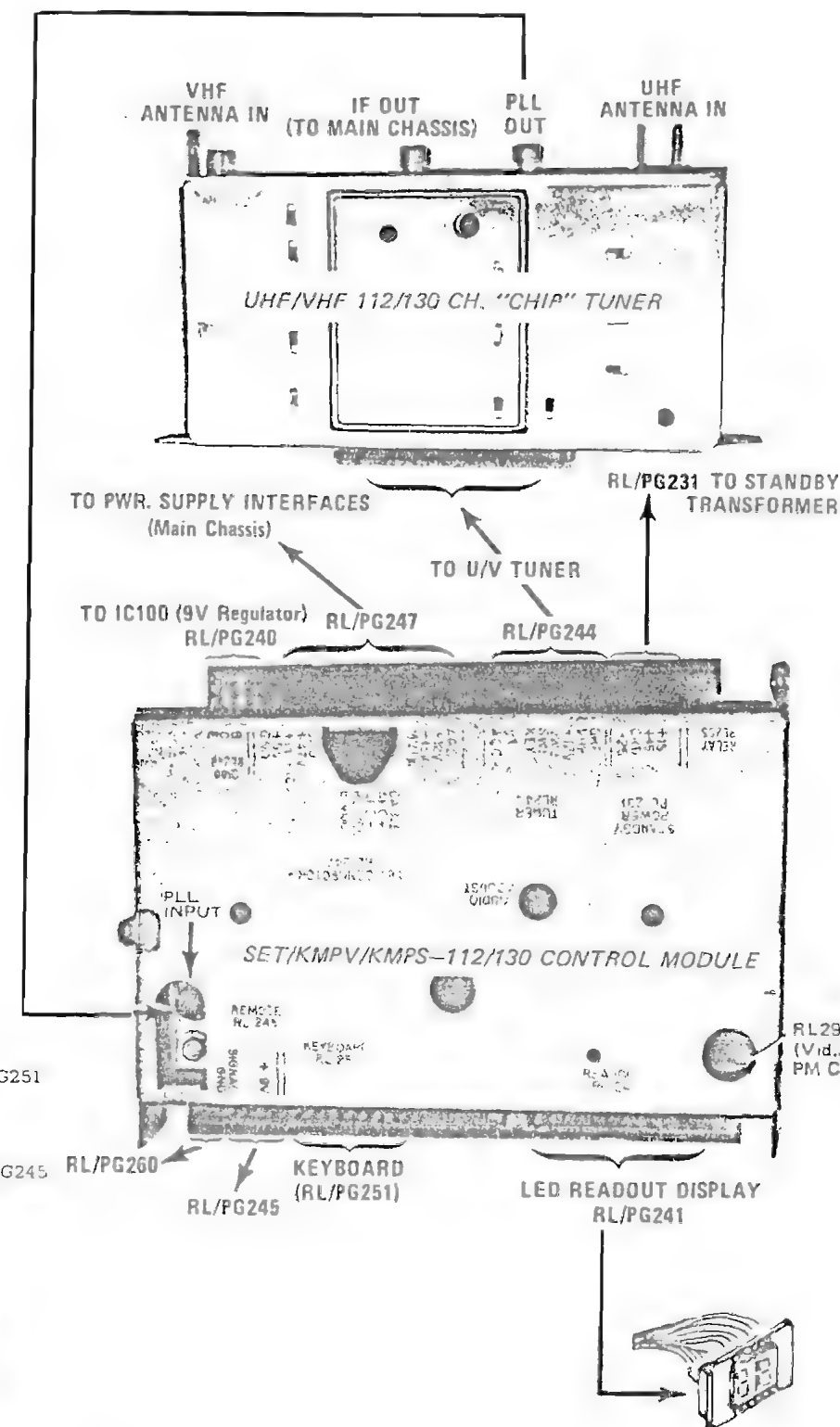
SET/KMPV/KMPS-112/130 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM

SET/KMPV/KMPS-KEYBOARDS

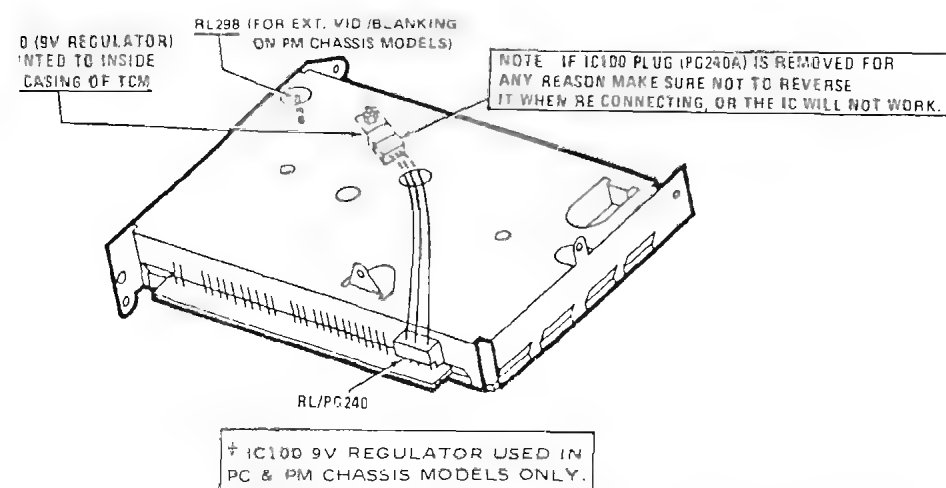


SET/KMPV/KMPS-112/130 TUNING SYSTEM ASSEMBLIES

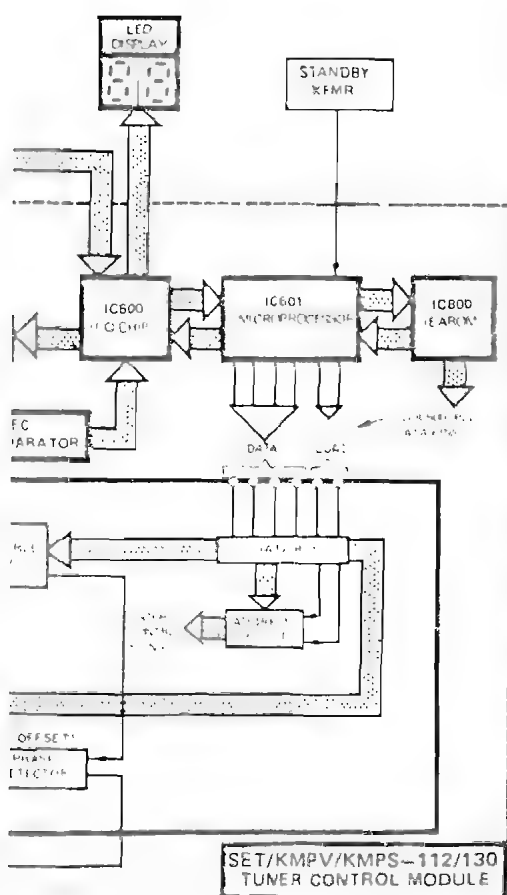
SET/I



SET/KMPV/KMPS—TUNER CONTROL MODULE WITH IC100 (9V REG.)

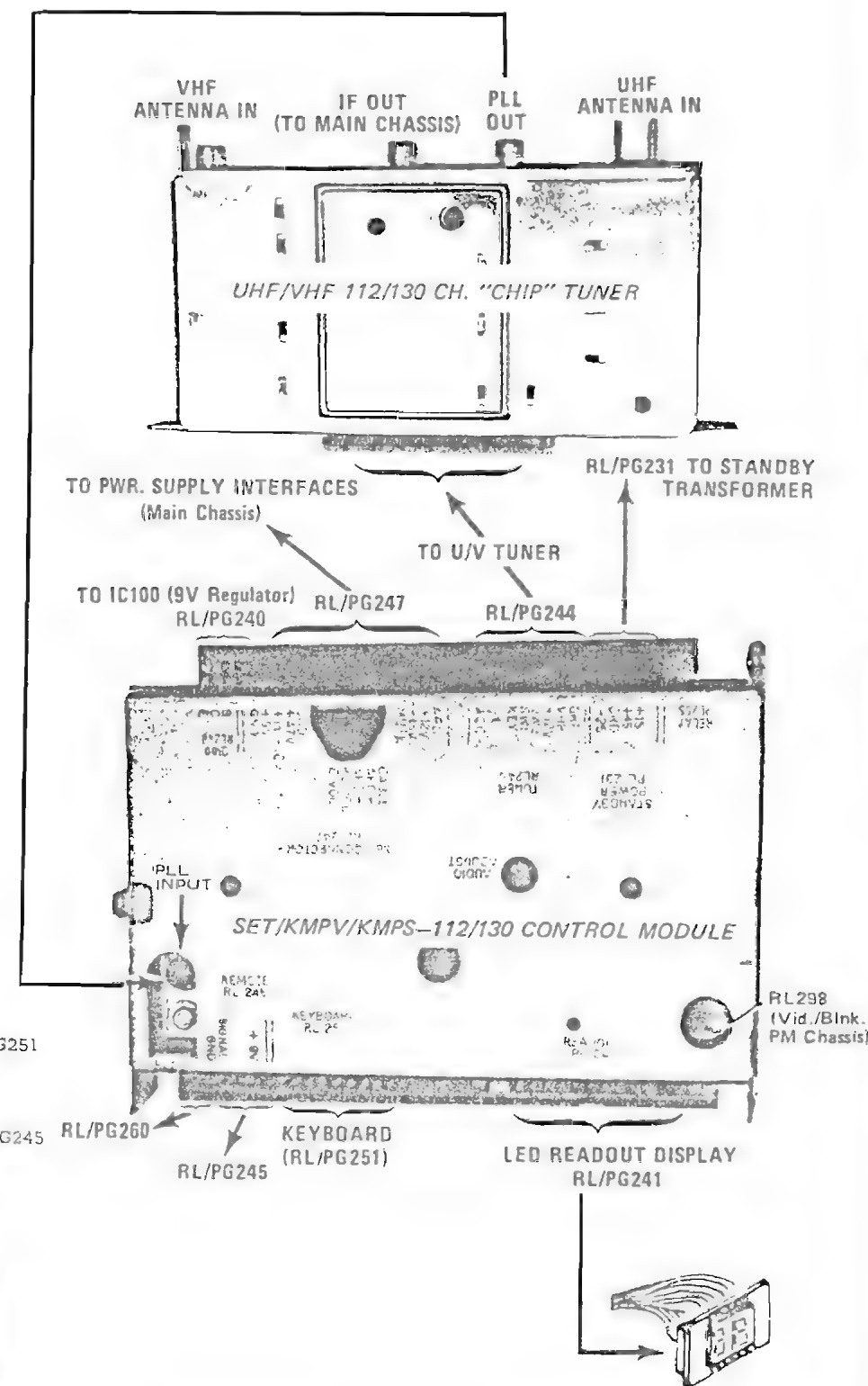


SYSTEM BLOCK DIAGRAM



7 SYSTEM BLOCK DIAGRAM

SET/KMPV/KMPS—112/130 TUNING SYSTEM ASSEMBLIES



SET/KMPV/KMPS—112/130 TUNING SYSTEM ASSEMBLIES

SET/KMPV/KMPS—112/130 TUNING SYSTEM TROUBLESHOOTING INFO.

General.

To help troubleshoot the 112/130 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.

Power Supplies

- 1 Do not unplug, but do check all voltages at RL/PG247 (Check +15V only if IC regulator is included with tuner control module)
- 2 Check RL231, pin 1 for 30 to 38VAC (supply for B minus (-) 27V supply to IC600, E.A.R.O.M.)
- 3 Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Troubleshooting Order

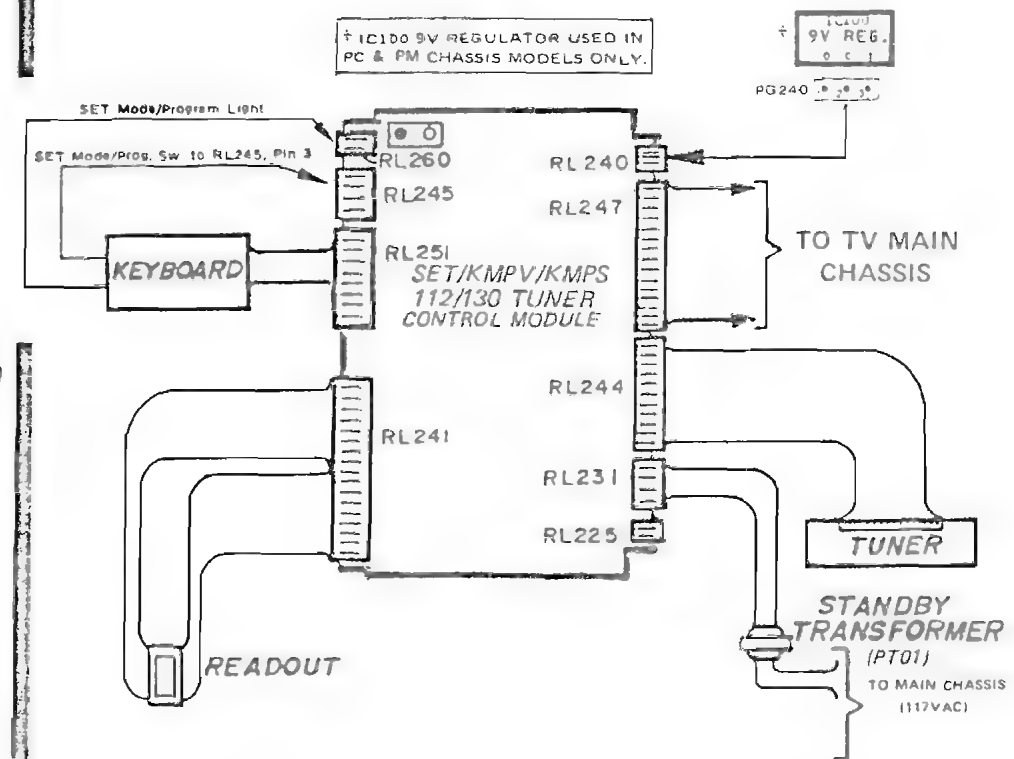
In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check

- 1 Tuner/Bandswitch transistors
- 2 Microprocessor (IC601)
- 3 Keyboard
- 4 IC600 (I/O) Chip
- 5 IC600 (E.A.R.O.M.)
- 6 IC500 (PLL CHIP)

Categorized Symptoms

- Dark Raster (LED Readout Display OK)
Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Low or Cable only)
Check Bandswitch Transistors
- No Channel, No Keyboard or Remote operation with Relay forced ON (LMP/MP)
Check Microprocessor (IC601)
- No Last Channel or Favorite Channel Memory during power failure
Check IC600
- Readout Display OK, but Channels Off-Frequency
Check Bandswitch voltage, if OK, check IC500 (PLL Chip)

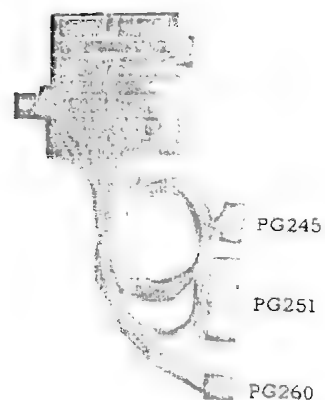
SET/KMPV/KMPS—112/130 CONTROL MODULE PLUG LOCATIONS



SET/KMPV/KMPS—112/130 CONTROL MODULE PLUG LOCATIONS

SET/KMPV/KMPS—KEYBOARDS

SET KEYBOARD



KMPV KEYBOARD



KMPV KEYBOARD

KMPS KEYBOARD

PC CHASSIS

SET/KMPV/KMPS-112/130 ELECTRONIC TUNING SYSTEM REPLACEMENT PARTS LIST

SET-112/130 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
L920	EP36X33	CHOKE-56uh, 5% (19" & 25" PM ONLY)
L921	EP36X48	CHOKE-200uh, 5% (25" PM ONLY)
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
SEE MODEL PAGE	SEE MODEL PAGE	CHANNEL NUMBER READOUT DISPLAY-Green
SEE MODEL PAGE	SEE MODEL PAGE	KEYBOARD-Vol., & Channel Select
EP93X473	EP93X473	SET112 TUNER CONTROL CIRCUIT BOARD
EP93X466	EP93X466	SET130 TUNER CONTROL CIRCUIT BOARD
* EP93X415	* EP93X415	UHF/VHF TUNER (112 Channel)
* EP93X502	* EP93X502	UHF/VHF TUNER (130 Channel)

KMPV-112 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
L920	EP36X33	CHOKE-56uh, 5% (19" & 25" PM ONLY)
L921	EP36X48	CHOKE-200uh, 5% (25" PM ONLY)
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
SEE MODEL PAGE	SEE MODEL PAGE	CHANNEL NUMBER READOUT DISPLAY-Green
SEE MODEL PAGE	SEE MODEL PAGE	KEYBOARD-On/Off, Vol., & Channel Select
EP93X474	EP93X474	KMPV112 TUNER CONTROL CIRCUIT BOARD
* EP93X415	* EP93X415	UHF/VHF TUNER (112 Channel)

KMPS-130 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 Terminal, 9V Regulator

COIL & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
L920	EP36X33	CHOKE-56uh, 5% (19" & 25" PM ONLY)
L921	EP36X48	CHOKE-200uh, 5% (25" PM ONLY)
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
SEE MODEL PAGE	SEE MODEL PAGE	CHANNEL NUMBER READOUT DISPLAY-Green
SEE MODEL PAGE	SEE MODEL PAGE	KEYBOARD-Vol., & Channel Select
EP93X467	EP93X467	KMPS130 TUNER CONTROL CIRCUIT BOARD
* EP93X502	* EP93X502	UHF/VHF TUNER

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microprocessor.

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, IC600, I/O or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry.

Check the IF per Main Chassis troubleshooting chart. IF OK, PROCEED TO ELECTRONIC TUNING TROUBLESHOOTING INFO. FOR POSSIBLE SOLUTION TO THE PROBLEM.

U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels: CH 1=28V, 6=20V, 13=19V, 33=6.5V and 82=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

POWER SUPPLY INTERFACE BOARD

(AC CHASSIS ONLY)
EP93X457

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R1	ES14X57	390 ohm, 5%, 1/2W, Carbon
* R2	EP14X366	68 Ohm, 5%, 1W, Metal Oxide
* R3	EP14X151	3.3 ohm, 5%, 1W, Metal Oxide
R4	EP14X129	220 ohm, 5%, 1/2W, Carbon
R5	EP14X295	910 ohm, 5%, 1/2W, Carbon
* R6	EP14X245	39 ohm, 5%, 1W, Metal Oxide
* R11	EP14X86	8.2K ohm, 5%, 2W, Metal Oxide

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q1	ES15X125	NPN, Silicon
Q2	ES15X125	NPN, Silicon
Q3	ES15X125	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y2	EP16X36	Zener
Y3	EP57X4	Rectifier, Silicon
Y4	EP57X5	Rectifier, Silicon

COIL

REF. NO.	PART NO.	DESCRIPTION
L1	EP36X144	CHOKE-27uh, 5%

TUNER CONTROL MODULES SET112 (EP93X473), SET130 (EP93X466), KMPV112 (EP93X474), KMPS130 (EP93X467)

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
† IC100	EP84X230	3 Terminal, 9V Regulator
IC500	EP84X220	PLL/Prescaler
IC600	EP84X222	Custom Interface
IC601	EP84X236	SET112 Control (Microprocessor)
IC601	EP84X236	SET130 Control (Microprocessor)
IC601	EP84X237	KMPV112 Control (Microprocessor)
IC601	EP84X237	KMPS130 Control (Microprocessor)
IC800	EP84X224	Alternate Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	P.P., Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q504	EP15X87	VCO Clamp, NPN, Silicon (Q504 Not Used)
Q601	EP15X57	A+ Switch, PNP, Silicon On 130 TCM's
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y503	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y600	EP16X32	Zener, 30V

COILS & TRANSFORMER

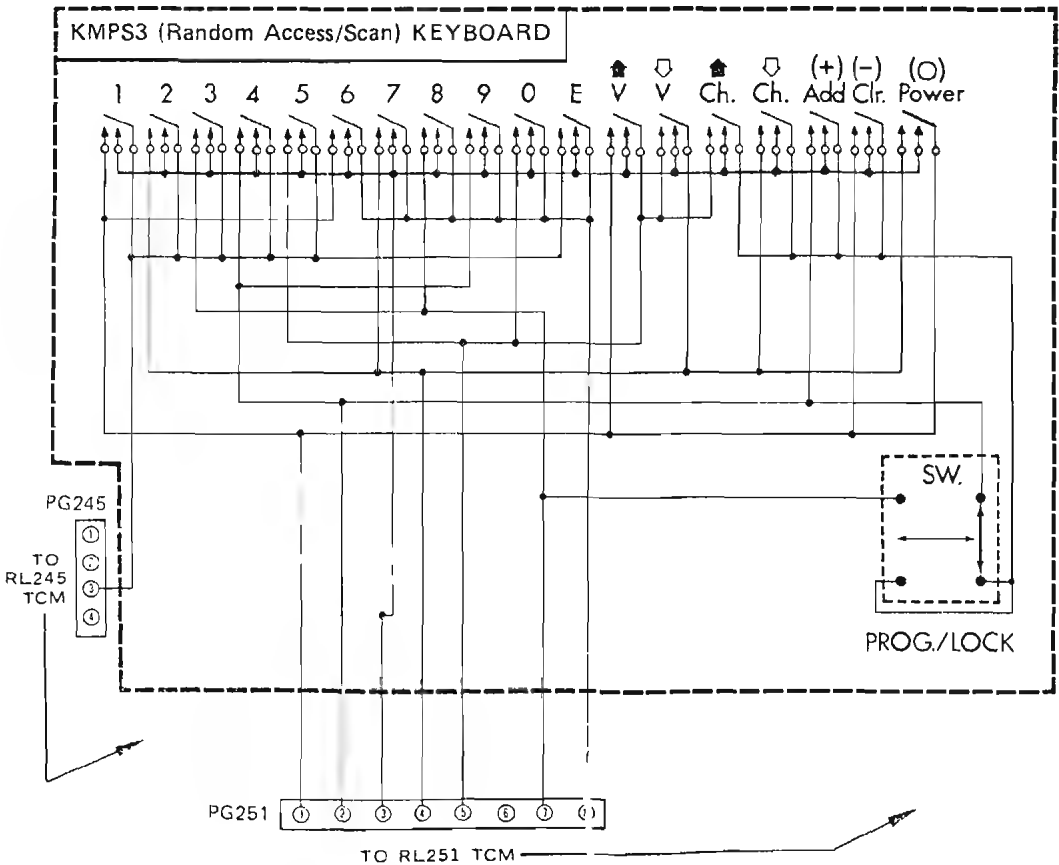
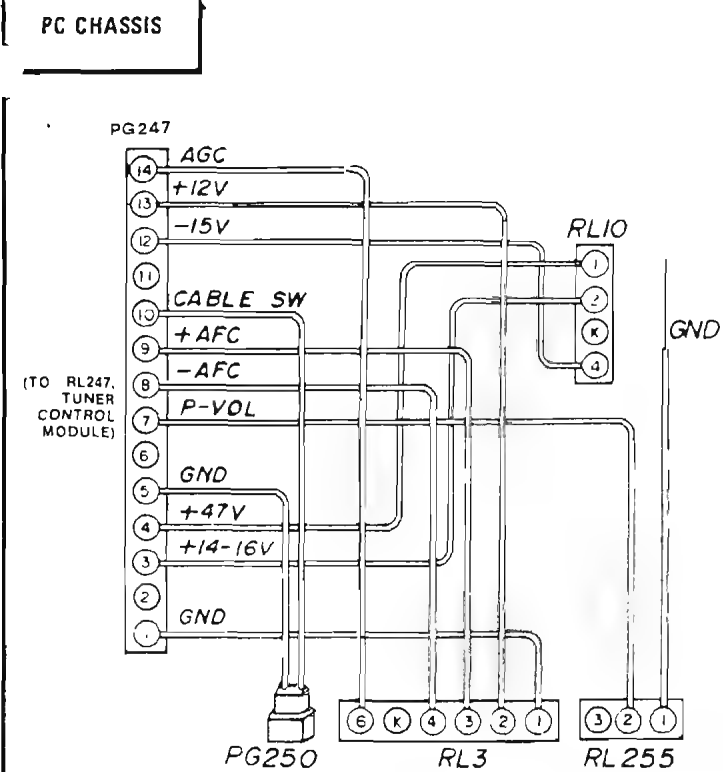
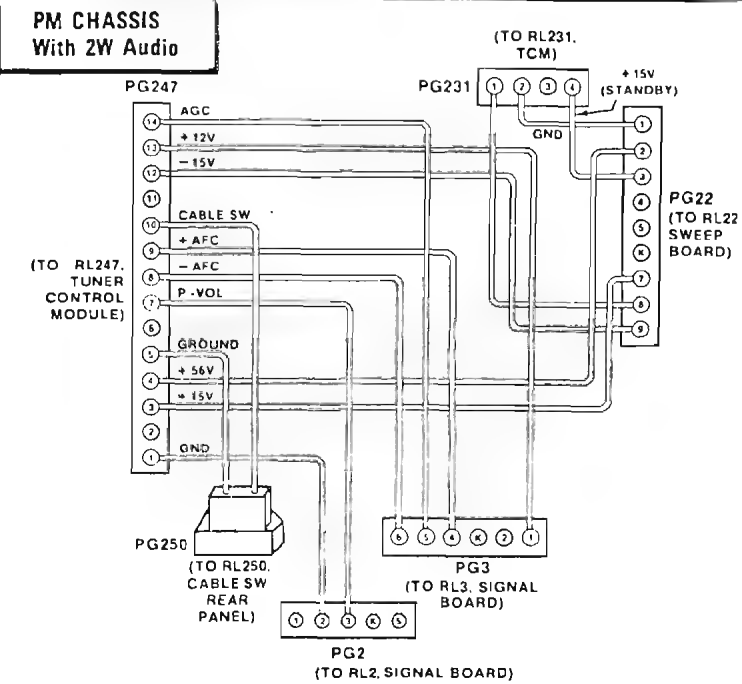
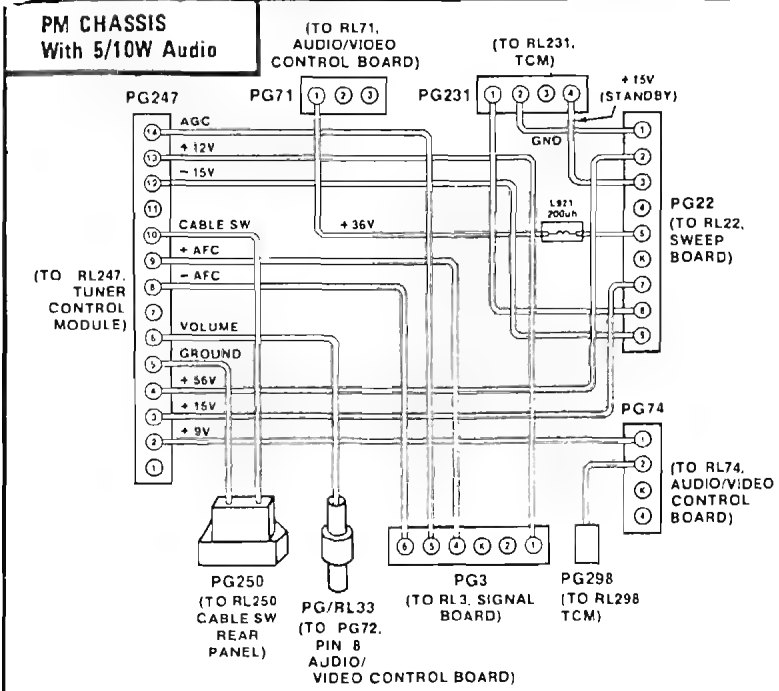
REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Qzt. Filter
L500	EP36X136	CHOKE-15uh, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

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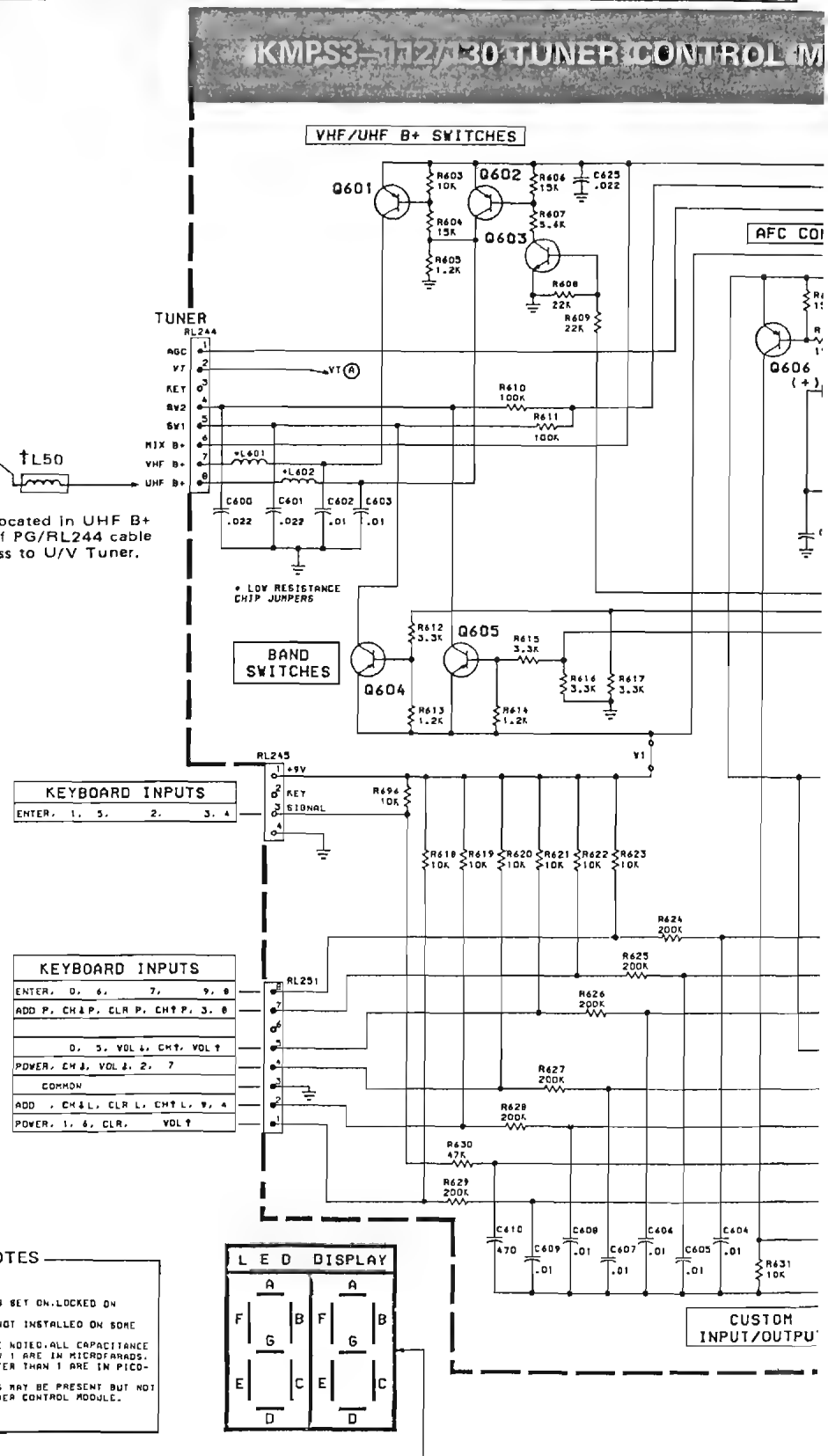
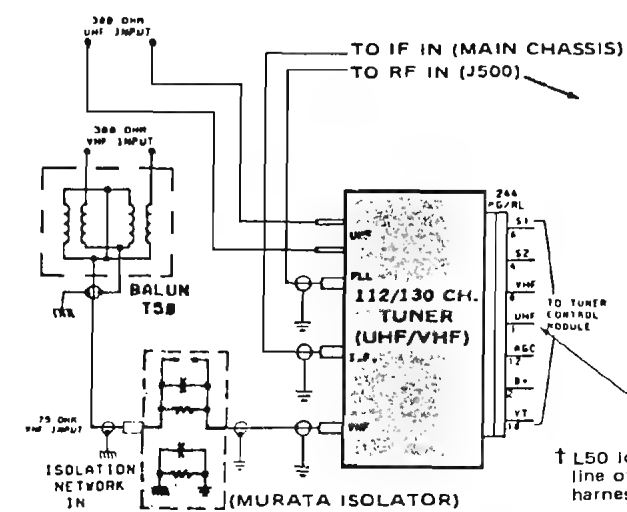
KMPS3-112/130 ELECTRONIC TUNING SYSTEM

PM & PC CHASSIS INTERFACE CONNECTIONS TO TUNER CONTROL MODULE

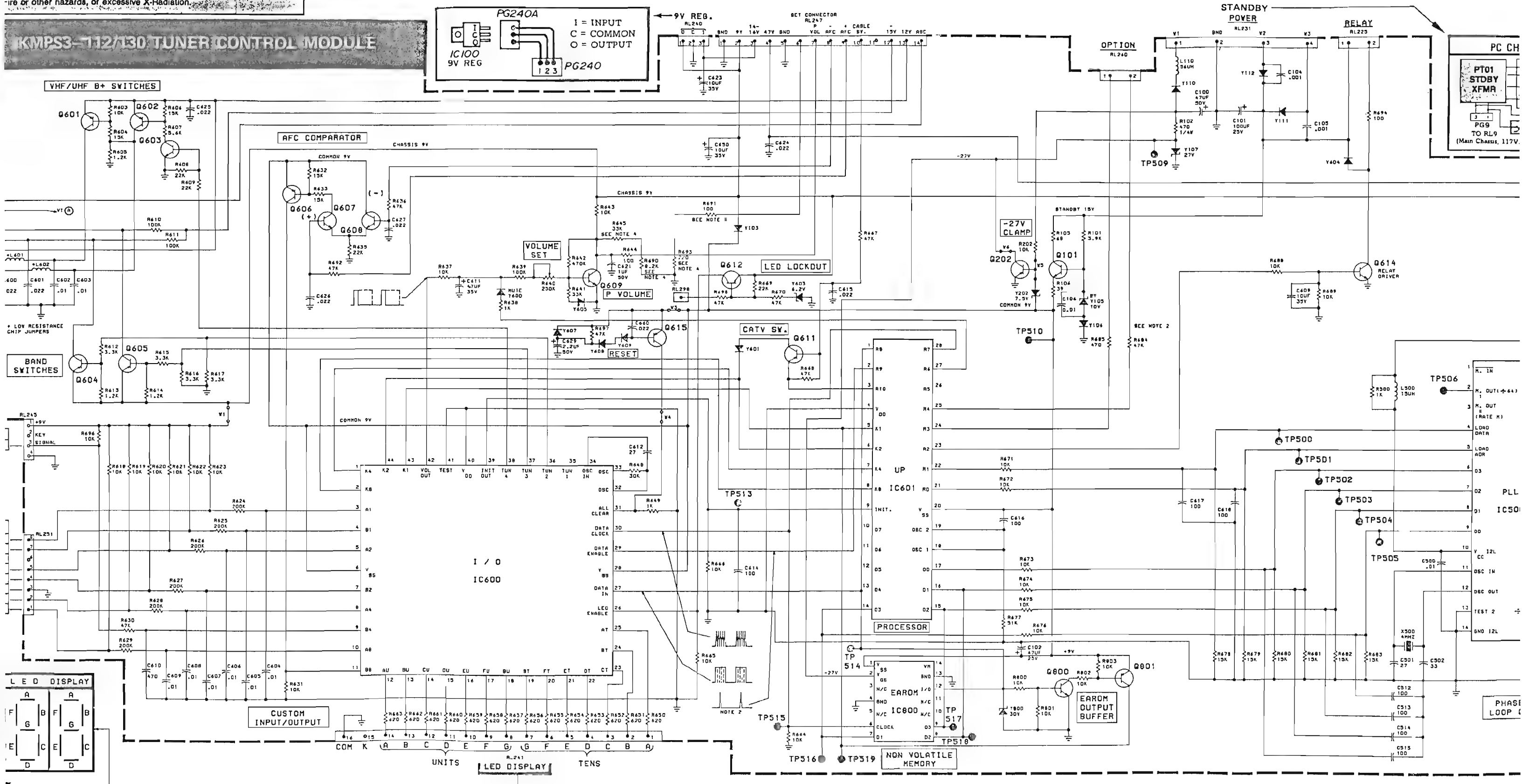


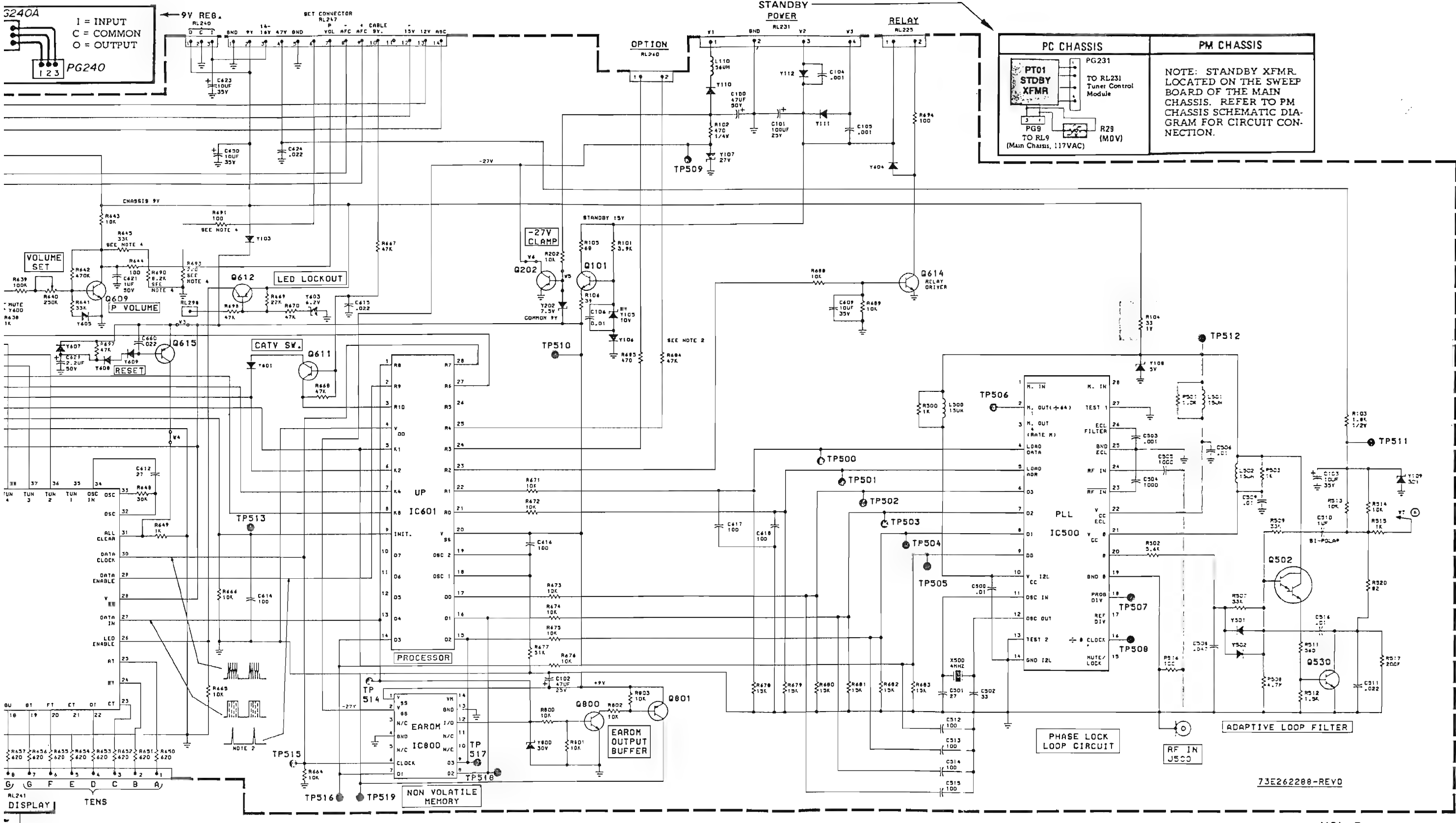
IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.



ICE
The (*) beside a part in the parts list and the shaded areas of the circuit diagram indicate that exact cataloged parts be used for replacement. Use of substitute replacement parts which do not have the same characteristics may cause fire or other hazards, or excessive X-Radiation.





KMPS3-112/130 "KEYBOARD/SCAN" ELECTRONIC TUNING SYSTEM

MINI-MANUAL

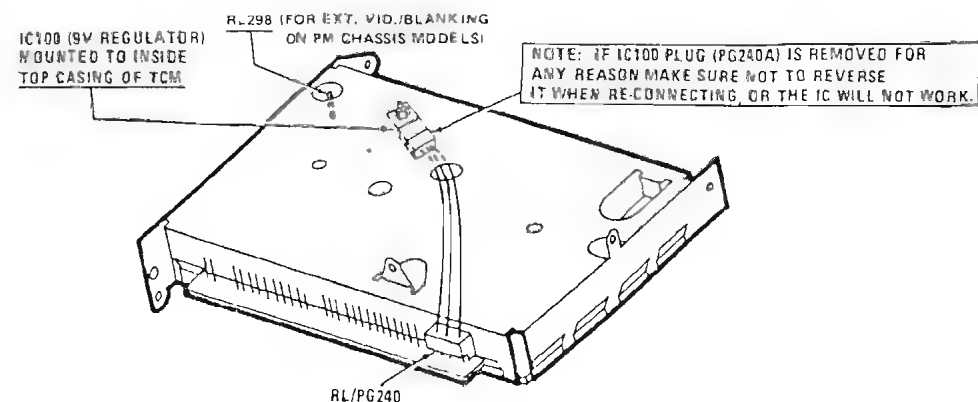
SERVICE INFORMATION
FOR TECHNICIAN
USE ONLY
ACCESSIBLE FROM INSIDE
TV SET ONLY

73B26176L

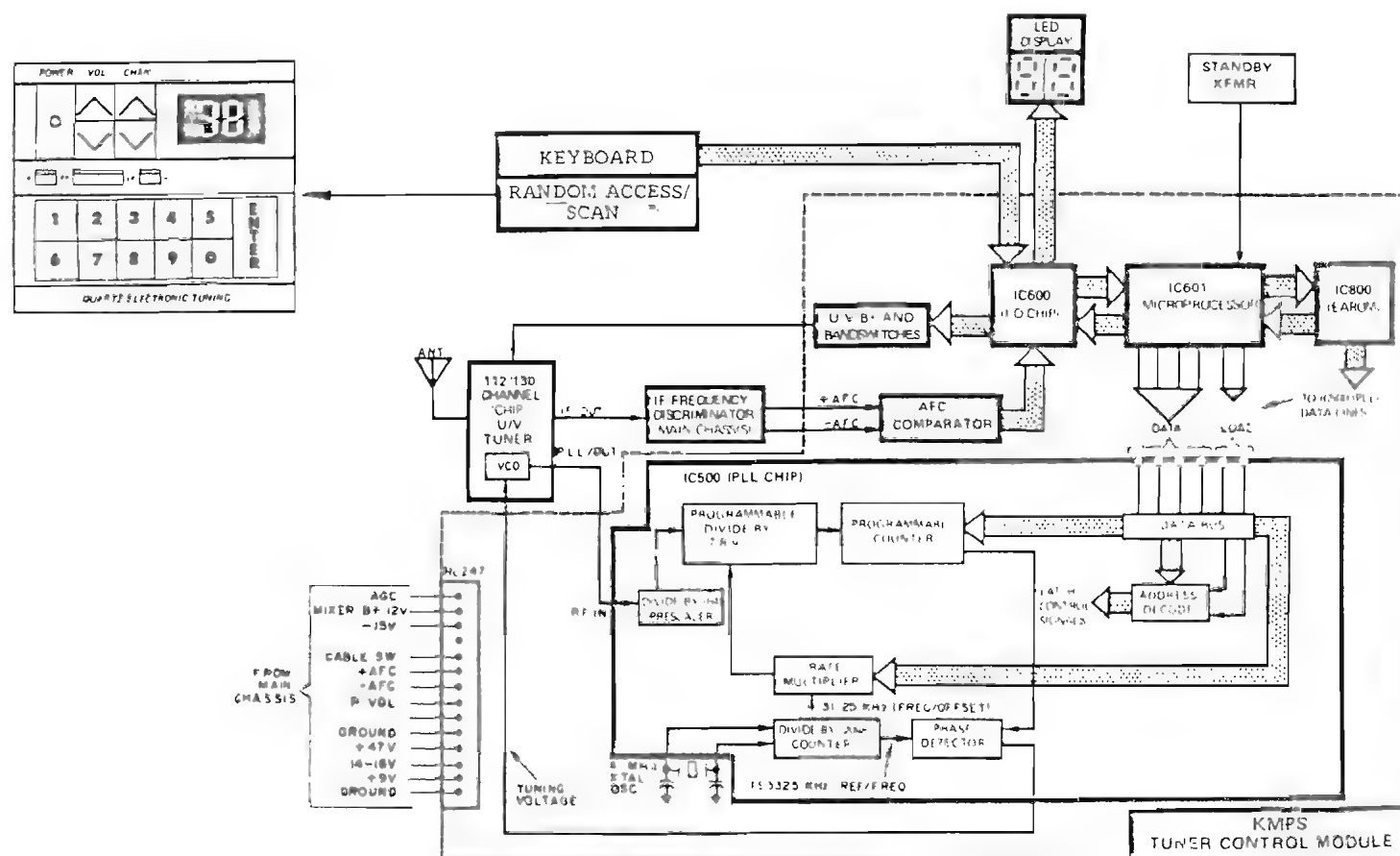
NOTICE TO TECHNICIAN:

THIS MINI-MANUAL IS CUSTOMER PROPERTY.
PLEASE REPLACE IN SET WHEN SERVICING IS
COMPLETED.

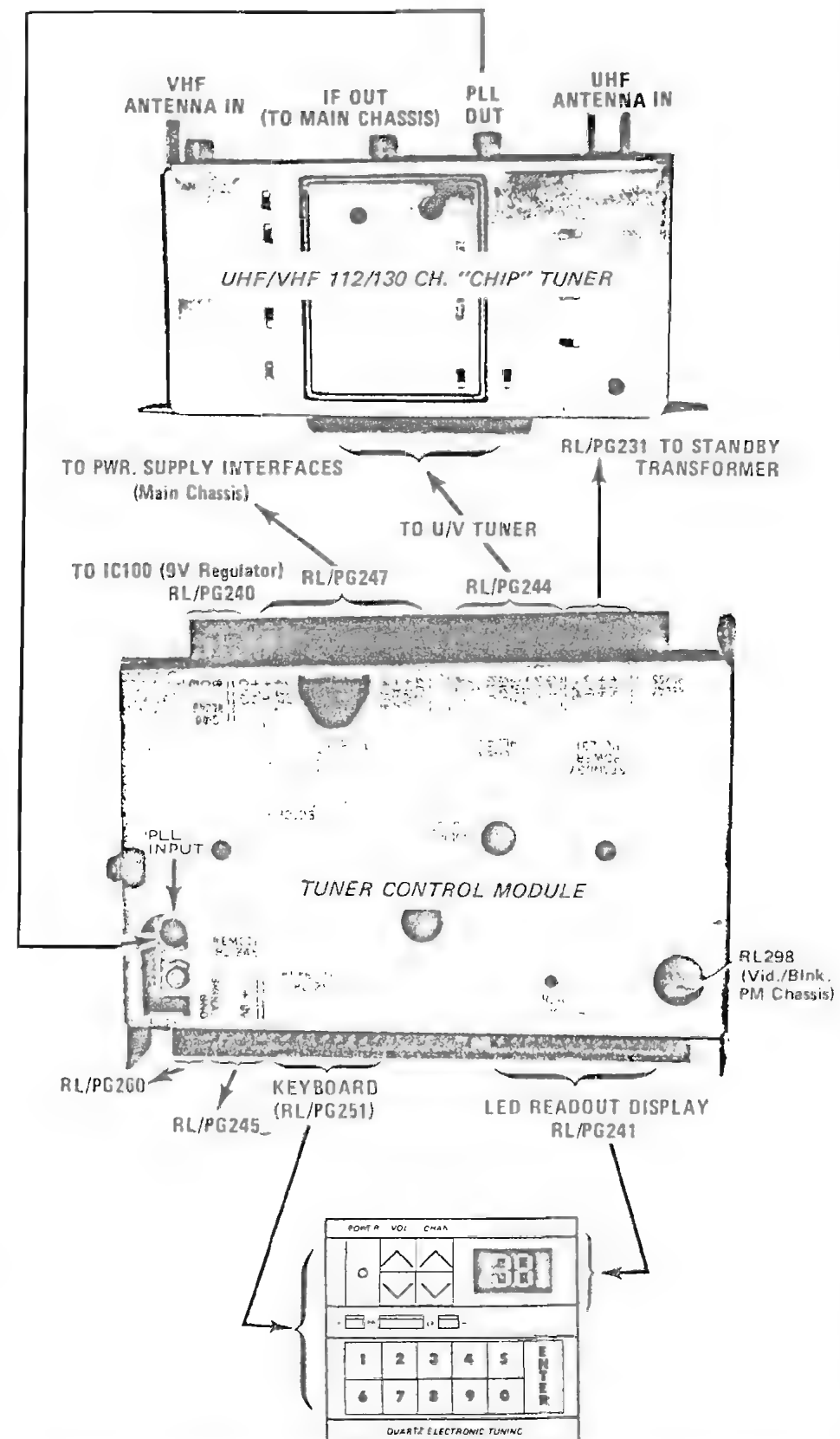
112/130 TUNER CONTROL MODULE WITH IC100 (9V REGULATOR)



112/130 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM



112/130 TUNING SYSTEM COMPONENT ASSEMBLIES



112/130 TUNING SYSTEM TROUBLESHOOTING INFORMATION

General: To help troubleshoot the 112/130 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.

Preliminary

Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Power Supplies

1. Do not unplug, but do check all voltages at RL/PG247. Check +15V only if IC100 (9V Regulator) is included with tuner control module.
2. Check RL231, pin 1 for 30 to 38VAC (supply for B minus (-) 27V supply to IC800, (EARM)).

Troubleshooting Order

In order of probability after checking power supplies, wires, and cable switch, check:

1. Tuner/Bandswitch transistors (Q601-Q605)
2. IC601 (Microprocessor)
3. Keyboard
4. IC600 (I/O)
5. IC800 (EARM)
6. IC500 (PLL)

Categorized Symptoms

- Dark Raster (LED Display OK)
Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
Check Bandswitch Transistors (Q601-Q605)
- No Channel, No Keyboard operation
Check IC601 (Microprocessor)
- No Last Channel or Favorite Channel Memory during power failure.
Check IC800 (EARM)
- LED Display OK (Channels Off-Frequency)
Check Bandswitch voltages, if OK, check IC 500 (PLL Chip).
- No Picture (Channel LED Display Incorrect)
Check Keyboard, IC600 (I/O) and IC601 (uP)
- Picture OK (Channel LED Display Incorrect)
Check IC600 (I/O), IC601(uP) and LED Display

- No Picture (Channel LED Display OK)
Check "U/V Tuner, Video IF (Main Chassis), Standby Power Supply, IC601 (uP) IC500 (PLL) and associated circuitry.

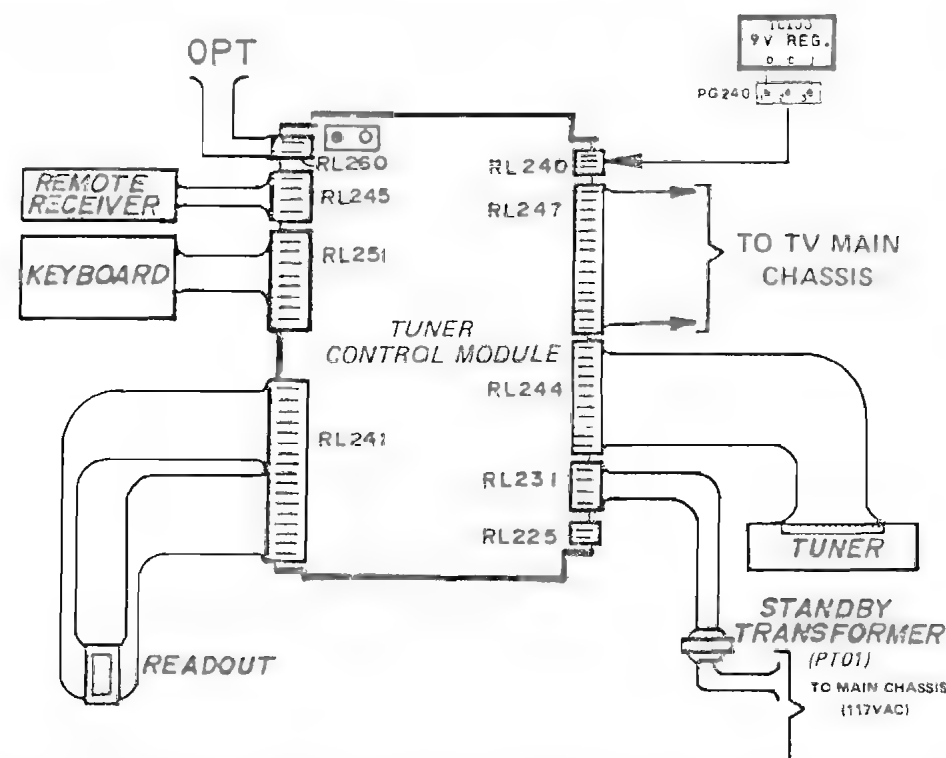
- Before proceeding:
Check the Main Chassis Video IF. If OK, proceed to U/V Tuner Check below.

U/V TUNER CHECK: (No Picture, Channel LED Display OK)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels; CH. 1 (28V), 6 (20V), 13 (19V), 33 (6.5V) and 82 (26V). The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28VDC at RL244, Pin 2) and connect end of a potentiometer (10K-15K) to the tuning voltage terminal (yellow wire). Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective (replace U/V Tuner).

If a station can be tuned in with the potentiometer, the problem could be the microprocessor (IC601), or the PLL (IC500).

112/130 TUNER CONTROL MODULE PLUG LOCATIONS



KMPS3-112/130 ELECTRONIC TUNING SYSTEM (PARTIAL) REPLACEMENT PARTS

KMPS3-112/130 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE 220uh 10%
L921	EP16X48	CHOKE-200uh 5% (P1 Only)
PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL2	EP8X96	CABLE-Coaxial 7" W/Phono Plugs
RL3	EP8X71	CONNECTOR-3 Pos.
RL51	EP8X43	CONNECTOR-2 Pins
RL244	EP8X91	CONNECTOR-9 Pos.
PG250	EP8X43	CONNECTOR-2 Pins
SEE MODEL PAGE	EP93X529	KEYBOARD-Vol., & Channel Select BOARD
EP93X530		KMPS3-112 TUNER CONTROL CIRCUIT BOARD
EP93X530		KMPS3-130 TUNER CONTROL CIRCUIT BOARD
EP34X41		SOCKET-IC100
* EP93X502		UHF/VHF TUNER (KMPS3-130)
* EP93X539		UHF/VHF TUNER (KMPS3-112)

KMPS3-112 TUNER CONTROL CIRCUIT BOARD

EP93X529

KMPS3-130 TUNER CONTROL CIRCUIT BOARD

EP93X530

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X245	KMPS130 CONTROL
IC800	EP84X224	EARM (KMPS3-112)
IC800	EP84X246	EARM (KMPS3-130)

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
* R106	EP14X344	39 ohm, 5%, 1/8W, Carbon

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
.800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L110	EP36X33	CHOKE-35uh
L500	EP36X136	CHOKE-15uh
L501	EP36X136	CHOKE-15uh
L502	EP36X136	CHOKE-15uh
X500	EP41X68	CRYSTAL-Qz

MISCELLANEOUS

PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

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TROUBLESHOOTING INFORMATION

Symptoms

No Picture (Channel LED Display OK)
U/V Tuner

No Picture (Channel LED Display OK)
U/V Tuner

No Picture (Channel LED Display OK)
U/V Tuner

No Picture (Channel LED Display OK)
U/V Tuner

No Picture (Channel LED Display OK)
U/V Tuner

No Picture (Channel LED Display OK)
U/V Tuner

No Picture (Channel LED Display OK)
U/V Tuner

No Picture (Channel LED Display OK)
U/V Tuner

- No Picture (Channel LED Display OK)
Check * U/V Tuner, Video IF (Main Chassis),
Standby Power Supply, IC601 (uP) IC500
(PLL) and associated circuitry.

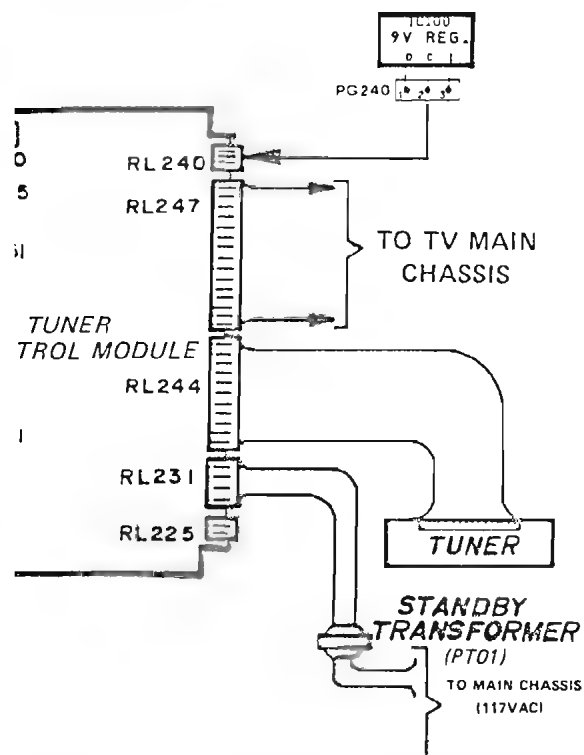
- Before proceeding:
Check the Main Chassis Video IF. If OK, pro-
ceed to U/V Tuner Check below.

U/V TUNER CHECK: (No Picture, Channel LED Display OK)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels: CH. 1 (28V), 6 (20V), 13 (19V), 33 (6.5V) and 82 (26V). The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28VDC at RL244, Pin 2) and connect end of a potentiometer (10K – 15K) to the tuning voltage terminal (yellow wire). Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective (replace U/V Tuner).

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

TUNER MODULE PLUG LOCATIONS



KMPS3-112/130 ELECTRONIC TUNING SYSTEM (PARTIAL) REPLACEMENT PARTS LIST

KMPS3-112/130 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
L921	EP36X48	CHOKE-200uh, 5% (PM Only)
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X96	CABLE-Coaxial 7" W/Phono Plugs
SEE MODEL PAGE		CHANNEL NUMBER READOUT DISPLAY-Green
RL2	EP8X90	CONNECTOR-3 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL51	EP8X43	CONNECTOR-2 Pins
RL244	EP8X91	CONNECTOR-9 Pos.
PG250	EP8X43	CONNECTOR-2 Pins
SEE MODEL PAGE		KEYBOARD-Vol., & Channel Select
EP93X529		KMPS3-112 TUNER CONTROL CIRCUIT BOARD
EP93X530		KMPS3-130 TUNER CONTROL CIRCUIT BOARD
EP34X41		SOCKET-IC100
* EP93X502		UHF/VHF TUNER (KMPS3-130)
* EP93X539		UHF/VHF TUNER (KMPS3-112)

KMPS3-112 TUNER CONTROL CIRCUIT BOARD

EP93X529

KMPS3-130 TUNER CONTROL CIRCUIT BOARD

EP93X530

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM
IC601	EP84X245	KMPS130 CONTROL
IC800	EP84X224	EAROM (KMPS3-112)
IC800	EP84X246	EAROM (KMPS3-130)

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
* R106	EP14X344	39 ohm, 5%, 1/8W, Carbon

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q601	EP15X225	PNP, Silicon
Q602	EP15X225	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

REF. NO.	PART NO.	DESCRIPTION
L110	EP36X33	CHOKE-56uh, 5%
L500	EP36X136	CHOKE-15uh, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%
X500	EP41X68	CRYSTAL-Qzt. Filter

MISCELLANEOUS

PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

73E261761

**25PM CHASSIS
W/10 WATT AUDIO**

Diagram showing the wiring for the 25PM chassis. Key components and connections include:

- PG247** (TO RL747 TUNER CONTROL MODULE): Includes AGC (+12V, -15V), CABLE SW (+AFC, -AFC), VOLUME, GROUND, +56V, +15V, and +9V.
- PG71** (TO RL71 AUDIO/VIDEO CONTROL BOARD): Includes +15V (STANDBY).
- PG231** (TO RL231 TCM): Includes +15V (STANDBY).
- PG22** (TO RL22 SWEEP BOARD): Includes +15V (STANDBY).
- PG74** (TO RL74 AUDIO/VIDEO CONTROL BOARD): Includes +15V (STANDBY).
- PG250** (TO RL250 CABLE SW REAR PANEL).
- PG3** (TO RL3 SIGNAL BOARD).
- PG298** (TO RL298 TCM).
- PG2** (TO RL2 SIGNAL BOARD).

**19PM CHASSIS
W/2 WATT AUDIO**

Diagram showing the wiring for the 19PM chassis. Key components and connections include:

- PG247** (TO RL47 TUNER CONTROL MODULE): Includes AGC (+12V, -15V), CABLE SW (+AFC, -AFC, P-VOL), GROUND, +56V, +15V, and GND.
- PG231** (TO RL231 TCM): Includes +15V (STANDBY).
- PG22** (TO RL22 SWEEP BOARD): Includes +15V (STANDBY).
- PG250** (TO RL250 CABLE SW REAR PANEL).
- PG3** (TO RL3 SIGNAL BOARD).
- PG2** (TO RL2 SIGNAL BOARD).

PC CHASSIS

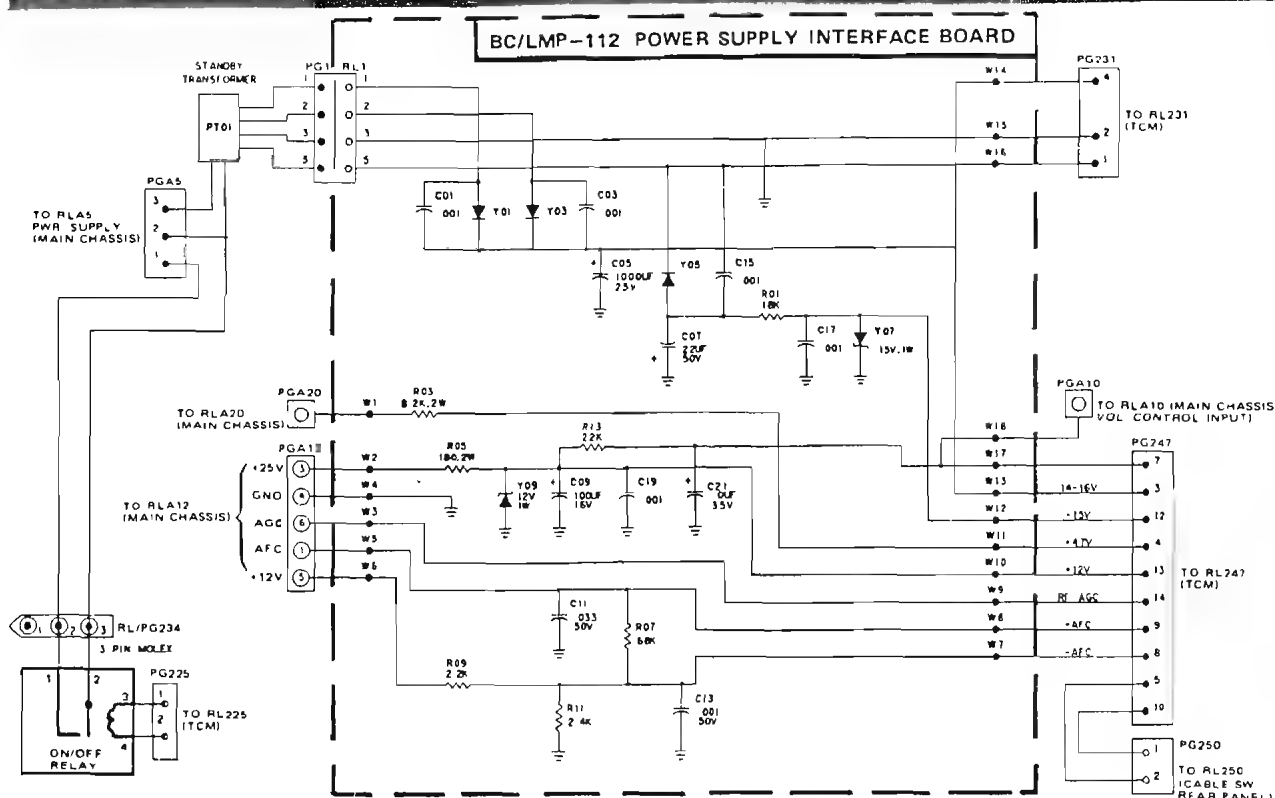
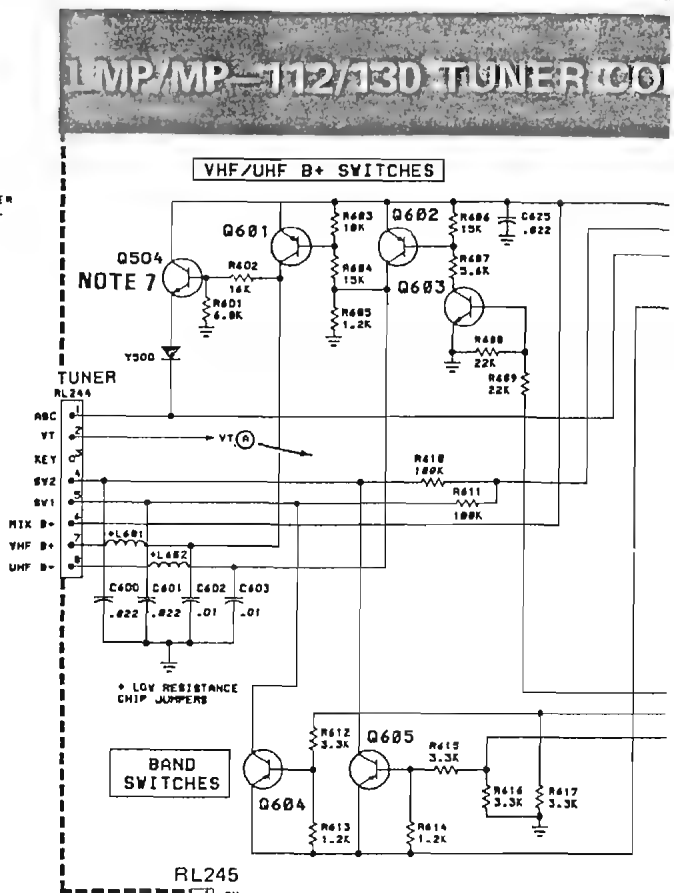
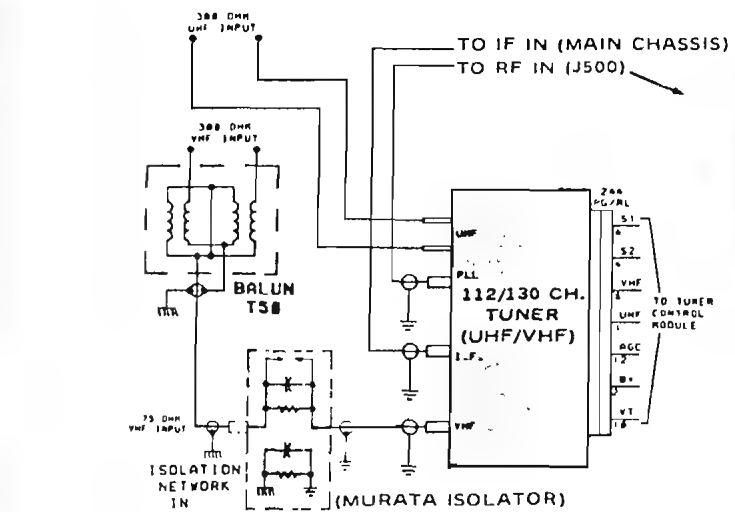
Diagram showing the wiring for the PC chassis. Key components and connections include:

- PG247** (TO RL247 TUNER CONTROL MODULE): Includes AGC (+12V, -15V), CABLE SW (+AFC, -AFC, P-VOL), GND, +62V, +67V, +9V, and GND.
- PG250** (TO RL250 CABLE SW REAR PANEL).
- RL3** (TO RL3 SIGNAL BOARD).
- RL255** (TO RL255 CABLE SW REAR PANEL).

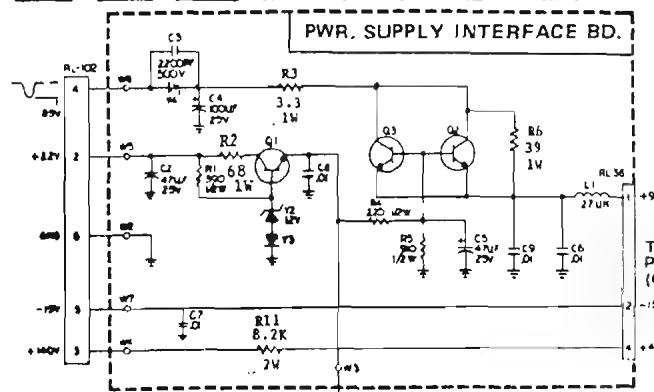
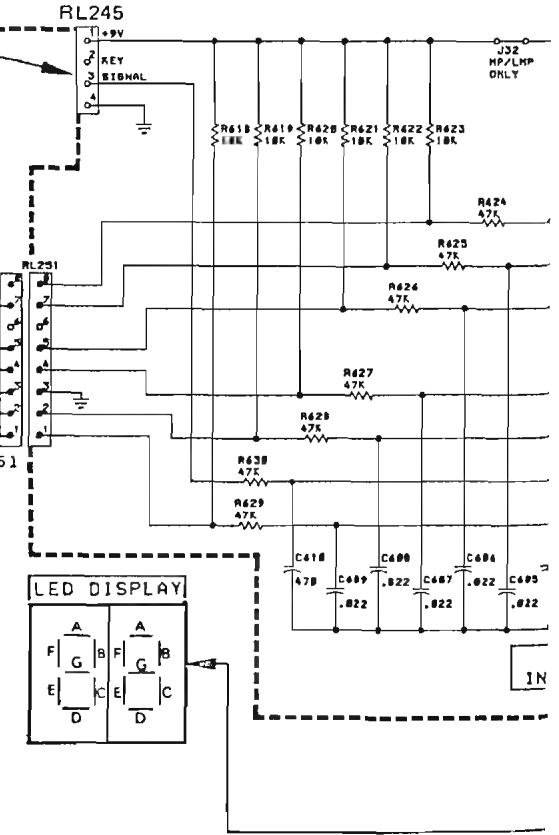
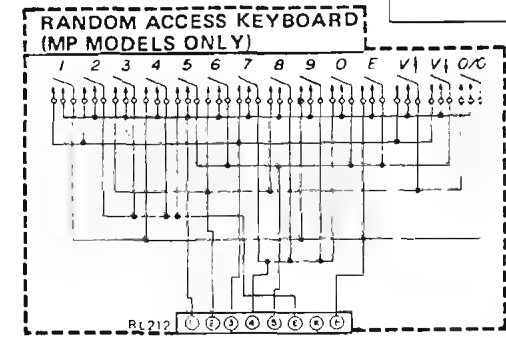
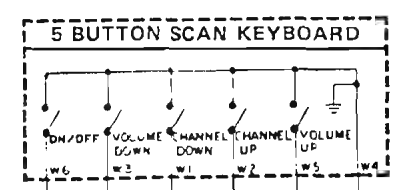
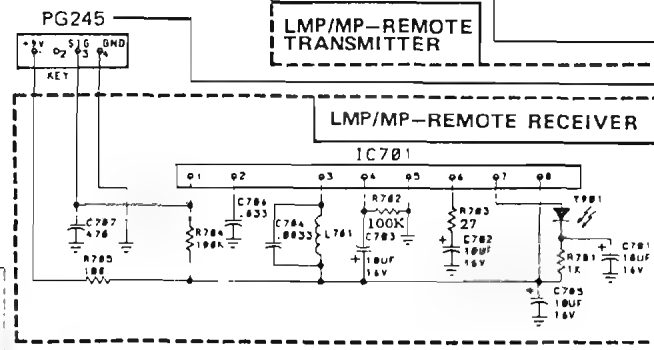
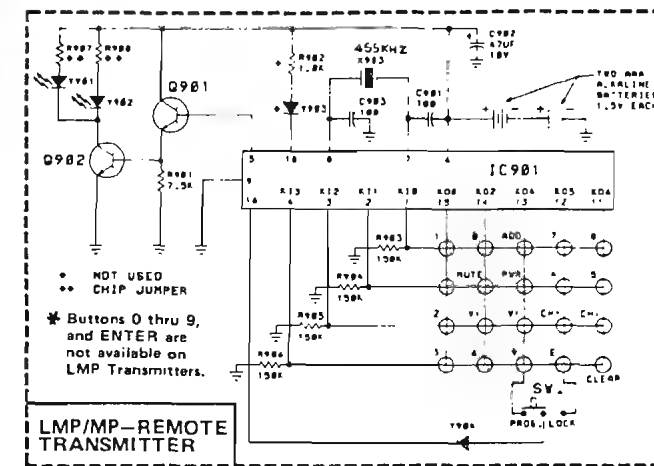
AC CHASSIS

Diagram showing the wiring for the AC chassis. Key components and connections include:

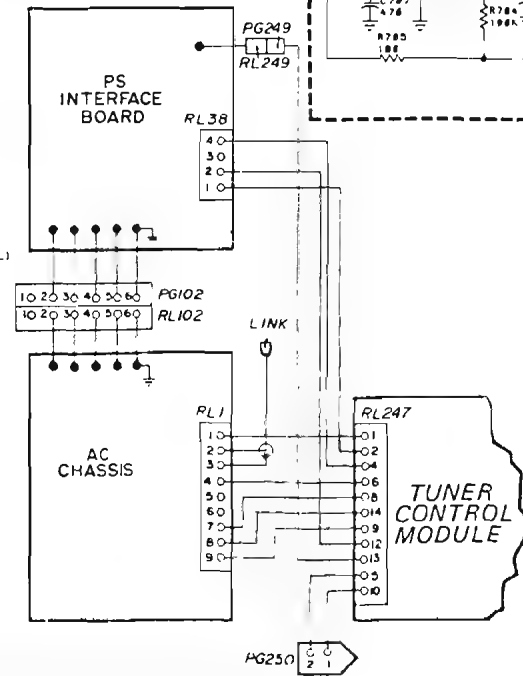
- PG247** (TO RL247 TUNER CONTROL MODULE): Includes AGC (+12V, -15V), CABLE SW (+AFC, -AFC, P-VOL), GND, +62V, +67V, +9V, and GND.
- PG250** (TO RL250 CABLE SW REAR PANEL).
- RL3** (TO RL3 SIGNAL BOARD).
- RL255** (TO RL255 CABLE SW REAR PANEL).



RANDOM ACCESS	3 BUTTON	PIN
7.8.9.8	R/C	8
ON/OFF.1.4.9.E	CH 1	7
KEY	KEY	6
2.3.4.5	ON/OFF	5
ON/OFF.V.3.6.8	CH 1	4
COR	COR	3
V1.566.8.E	VOL 1	2
V1.V2.1.2.7	VOL 1	1

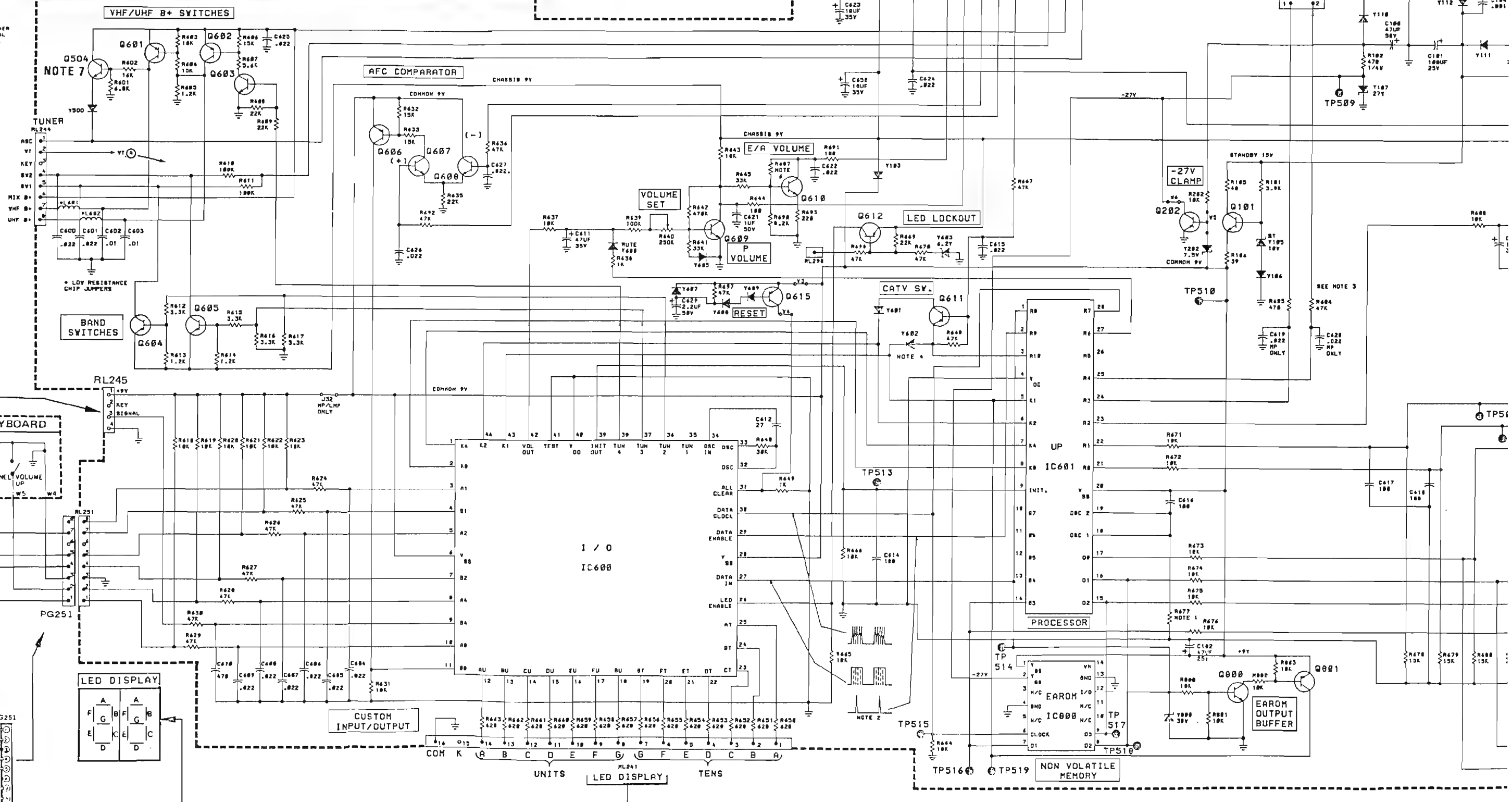
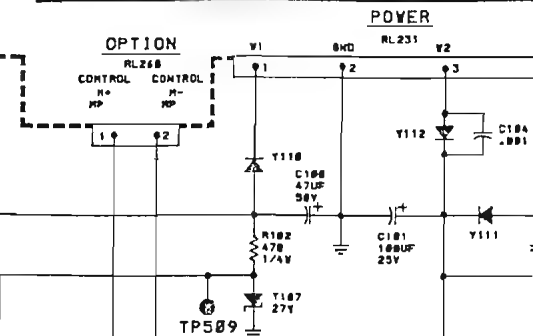
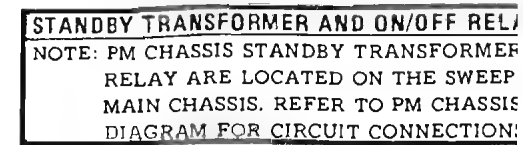
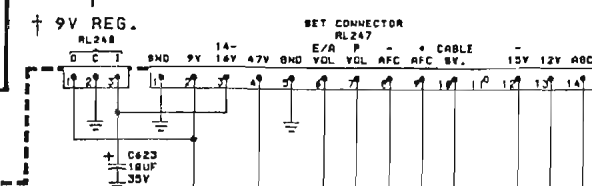
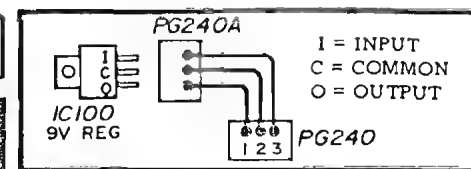
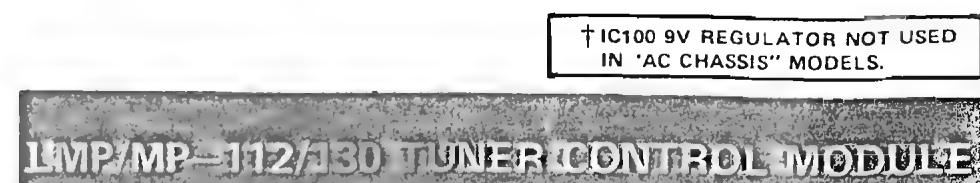
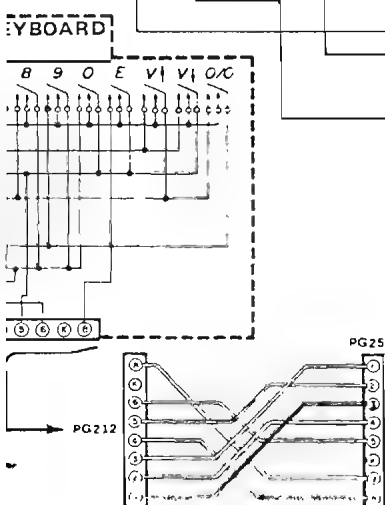
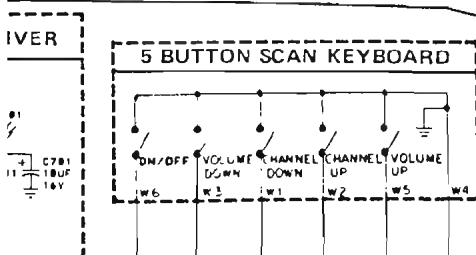
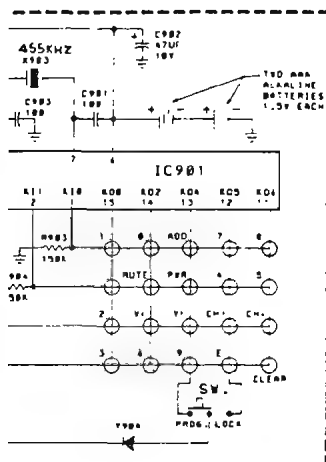
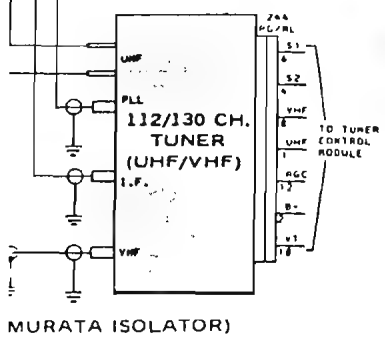


- ## NOTES
1. SELECT FORM:
 - THRE100 43K FOR LMP
 - THRE100 30M FOR LMP
 - BIBAL VAVEFORMS SET ON LOCKED ON CHANNEL
 - OPTION CIRCUIT NOT INSTALLED ON SOME MODELS.
 - ADD 1002 FOR RANDOM ACCESS ON MP.
 - UNLESS OTHERWISE NOTED ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS; ALL VALUES GREATER THAN 1 ARE IN PICO-FARADS.
 - 34K-PP
 - 22K-LMP
 - NOT WERDED ON 130 CHANNEL TCR.112 CHAM-

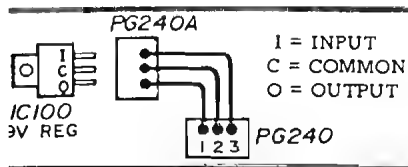


AC CHASSIS PWR SUPPLY INTERFACE TO TUNER CONTROL MODULE

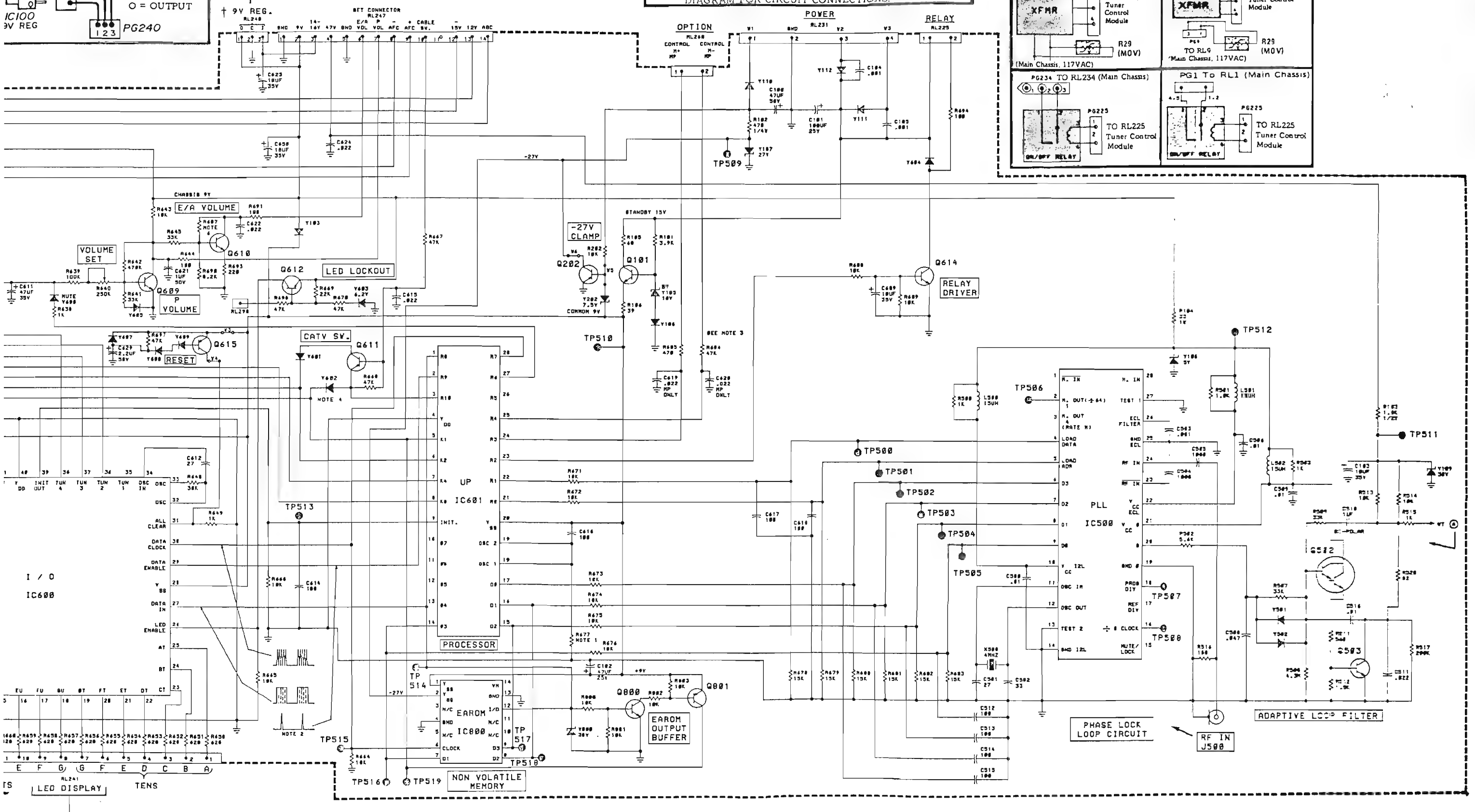
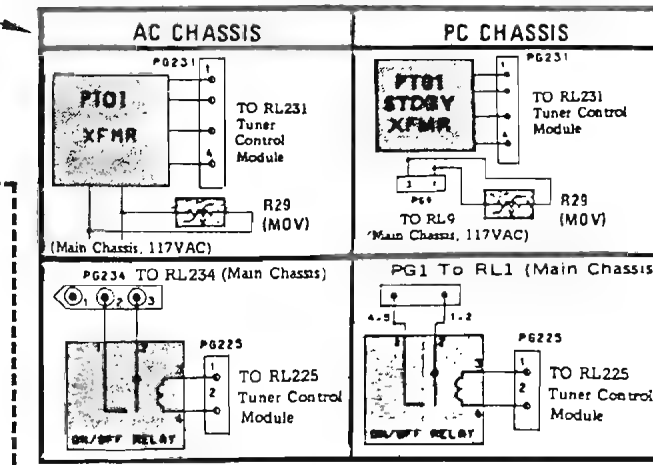
KEYBOARD HARNESS



KEYBOARD HARNESS

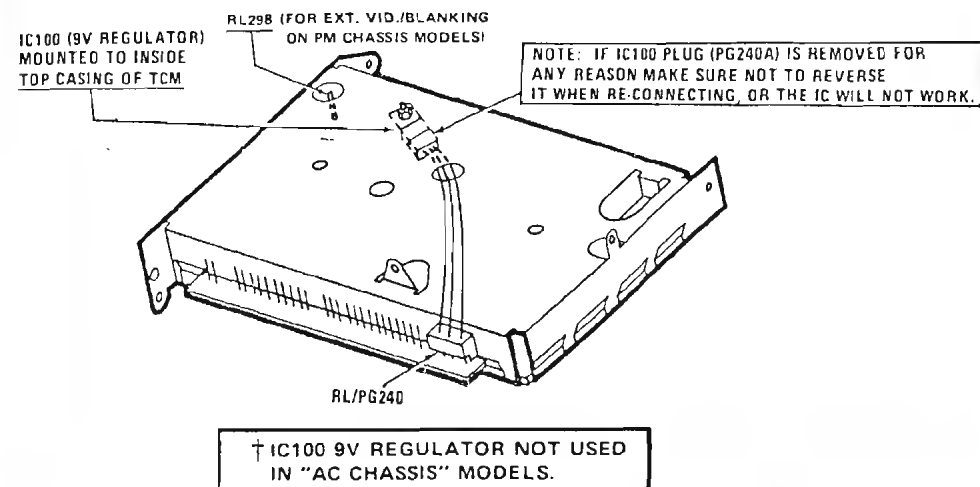


STANDBY TRANSFORMER AND ON/OFF RELAY DIAGRAMS
NOTE: PM CHASSIS STANDBY TRANSFORMER AND ON/OFF RELAY ARE LOCATED ON THE SWEEP BOARD OF THE MAIN CHASSIS. REFER TO PM CHASSIS SCHEMATIC DIAGRAM FOR CIRCUIT CONNECTIONS.

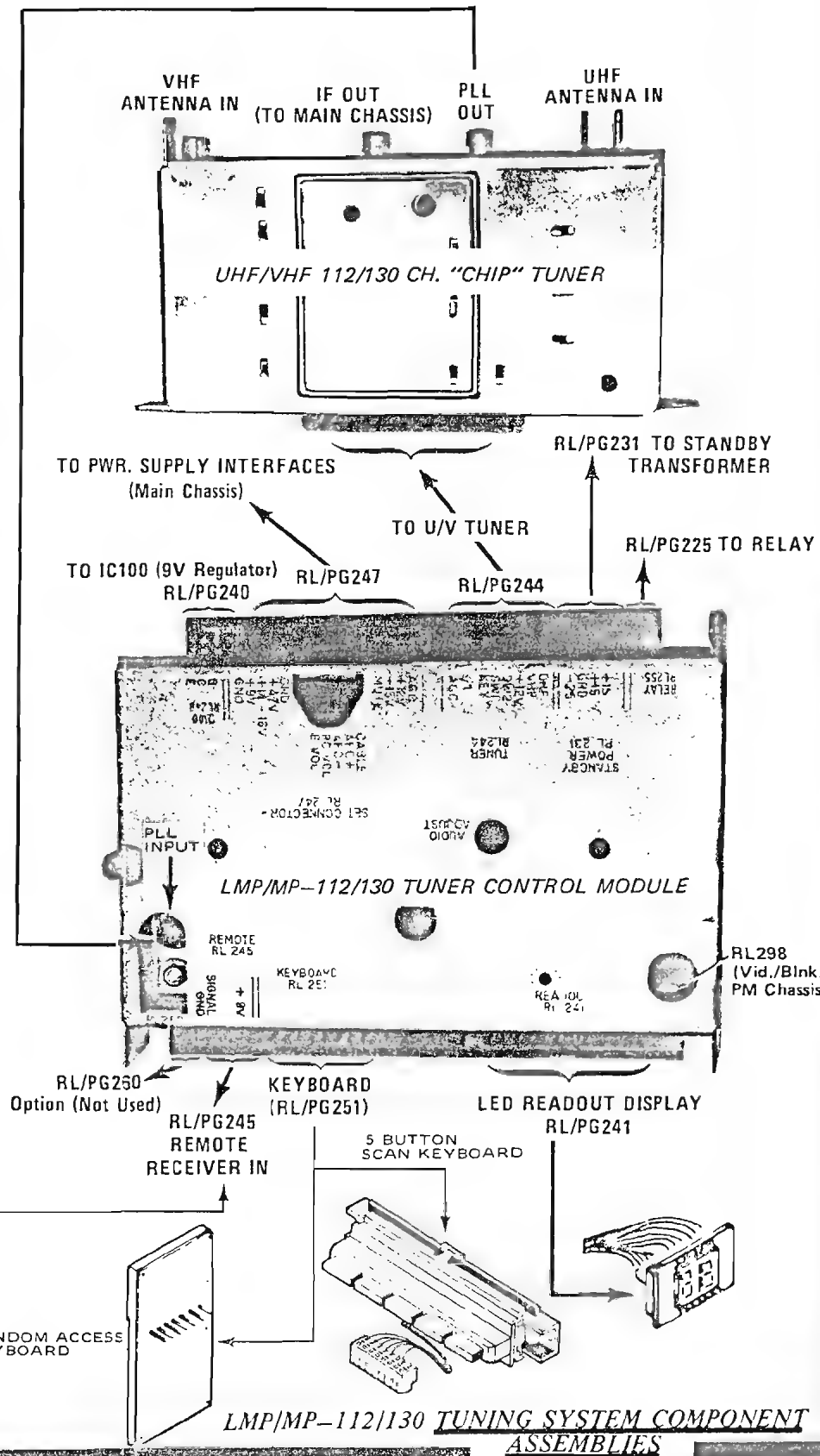




LMP/MP-112/130 TUNER CONTROL MODULE WITH IC100 (9V REGULATOR)



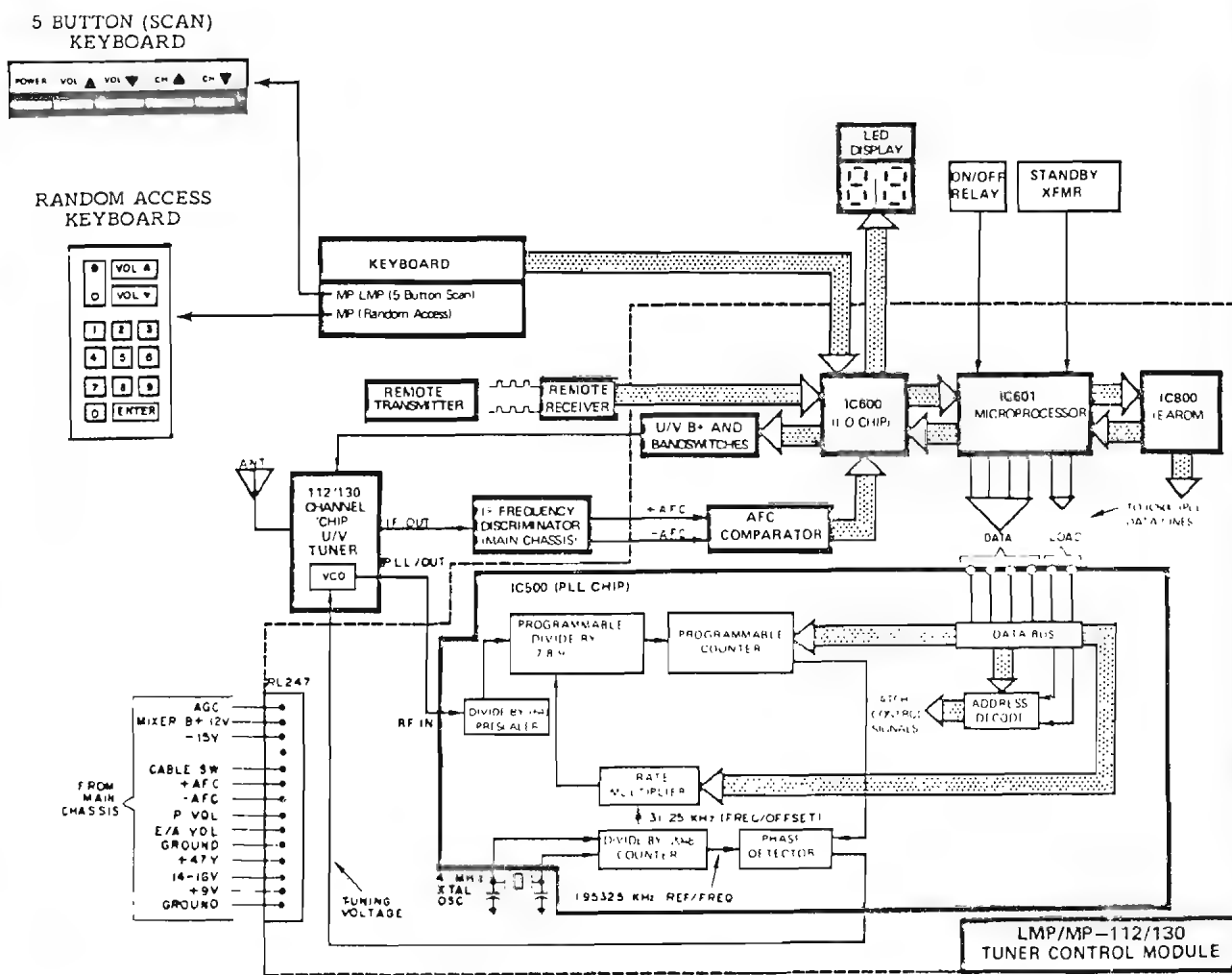
LMP/MP-112/130 TUNING SYSTEM COMPONENT ASSEMBLIES



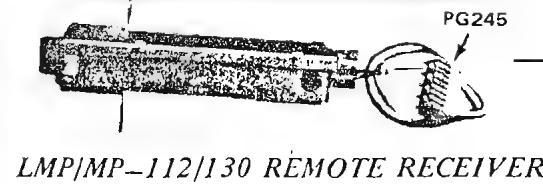
LMP/MP-112/130 TUNING SYSTEM COMPONENT ASSEMBLIES

- General To cha mor sym moc ing info not repa
- Power Supplies**
1. Do not unplug. RL/PG247 (Ch included with tu
 2. Check RL231, p B minus (-) 2
 3. Check RL225, p 17VDC
 4. Check RL245, p to 8.5 VDC
- RL225 Pin 1, +: set will sw On/OFF r grounding 100 ohm, y necessary. supplies
5. Check for short. They are freque

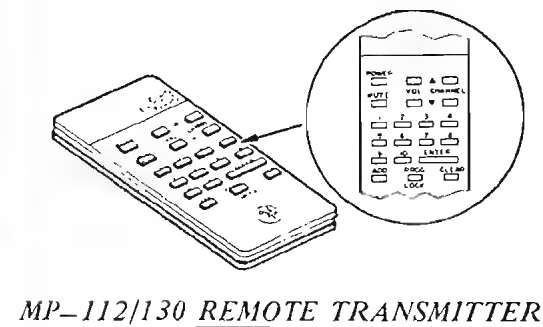
LMP/MP-112/130 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM



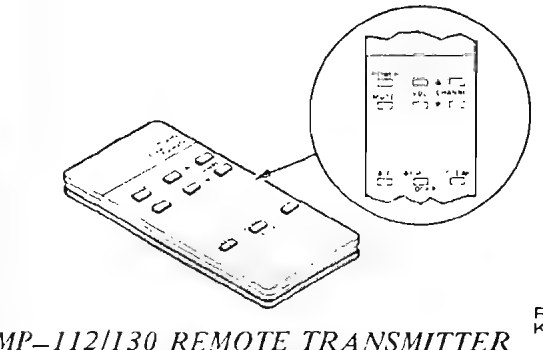
LMP/MP-112/130 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM



LMP/MP-112/130 REMOTE RECEIVER



MP-112/130 REMOTE TRANSMITTER

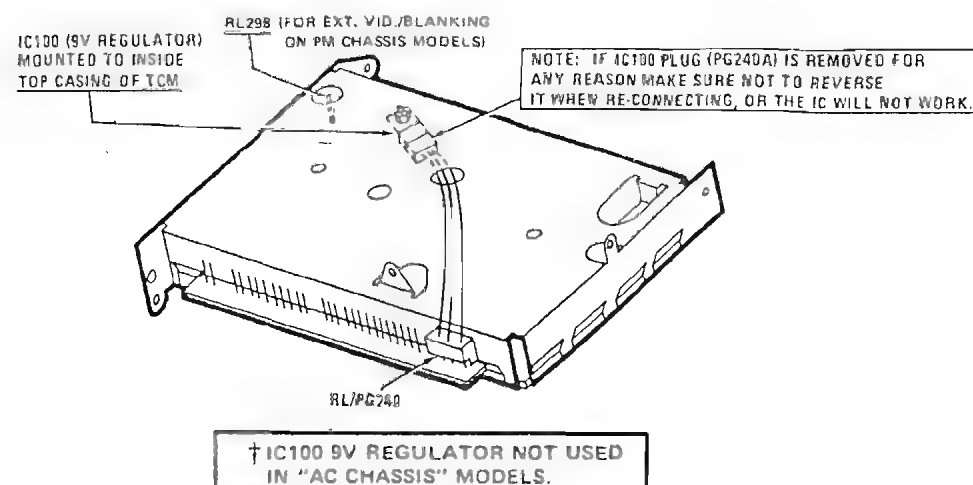


LMP-112/130 REMOTE TRANSMITTER

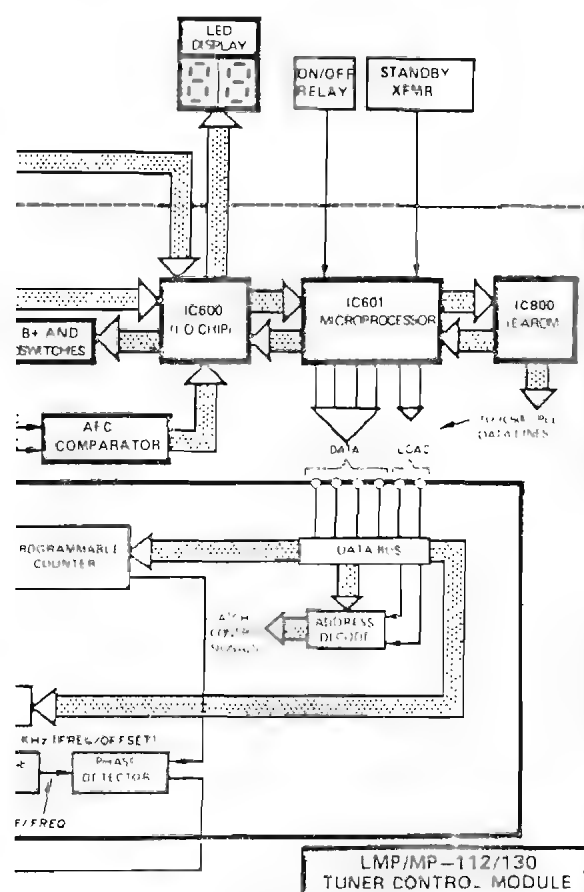
REMOTE RECEIVER

KEYBOARD

LMP/MP



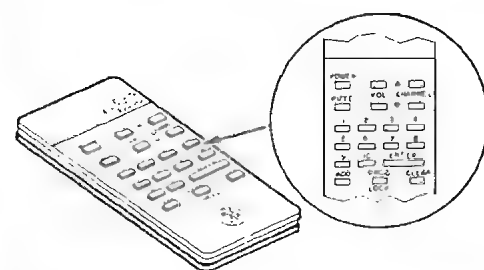
SYSTEM BLOCK DIAGRAM



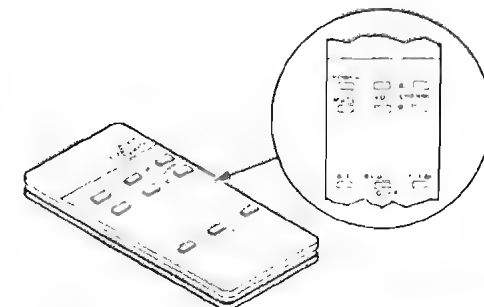
SYSTEM BLOCK DIAGRAM



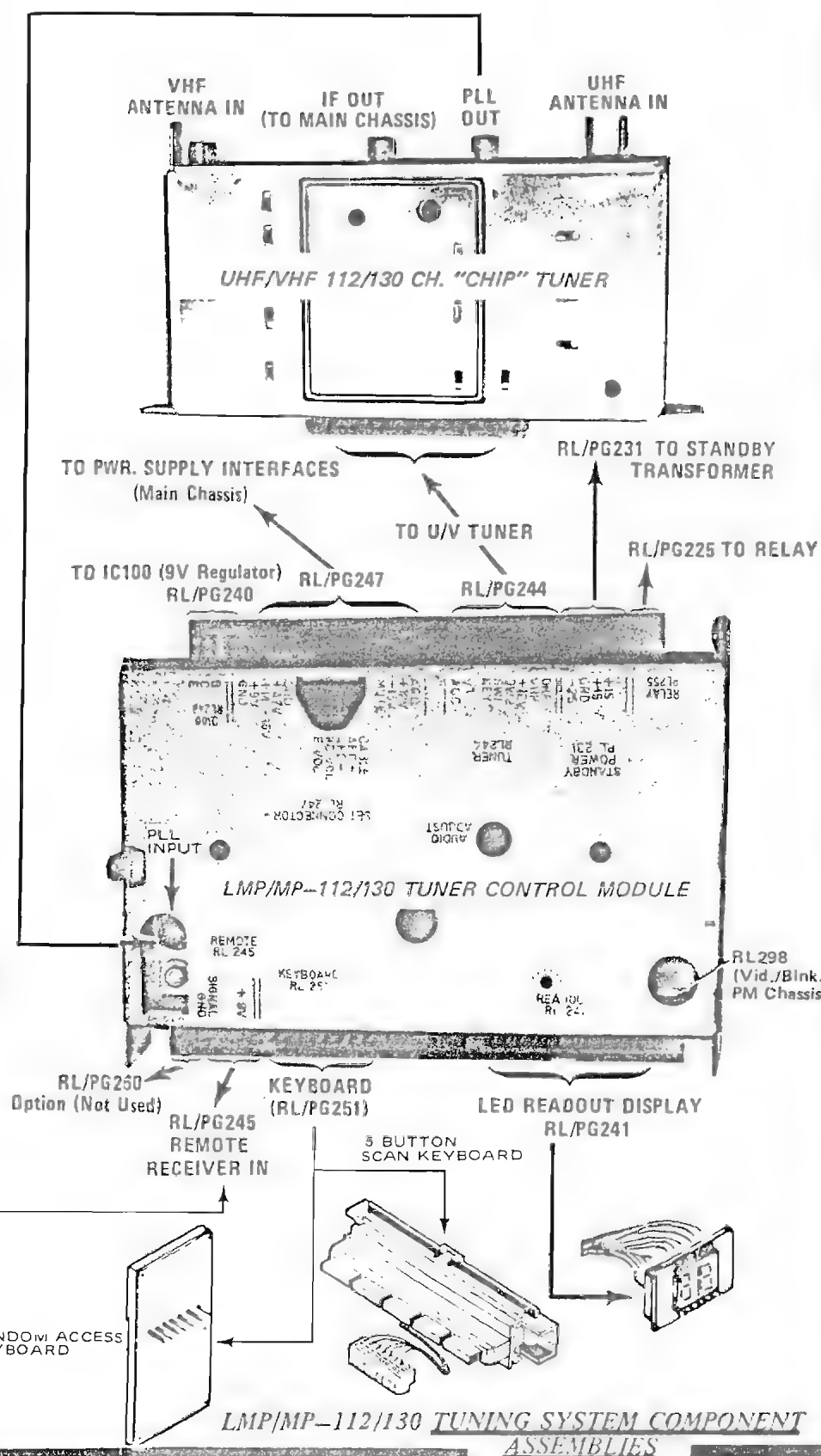
LMP/MP-112/130 REMOTE RECEIVER



LMP/MP-112/130 REMOTE TRANSMITTER



LMP/MP-112/130 REMOTE TRANSMITTER



General

To help troubleshoot the 112/130 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.

Power Supplies

1. Do not unplug, but do check all voltages at RL/PG247. (Check +15V only if IC regulator is included with tuner control module)
2. Check RL231, pin 1 for 30 to 38VAC (supply for B minus (-) 27V supply to IC800, E.AROM.
3. Check RL225, pin 1 for ON/OFF Relay B+ 13 to 17VDC
4. Check RL245, pin 1 for Remote Receiver B+ 7.5 to 8.5 VDC

NOTE:

RL225 Pin 1, +15 V must be correct before the set will switch on. If supplies are OK, the On/OFF relay may be forced on by grounding pin 2 of RL/PG225 through a 100 ohm 1/2 watt resistor. Replace Q614 if necessary, otherwise inspect TV power supplies.

5. Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Troubleshooting Order

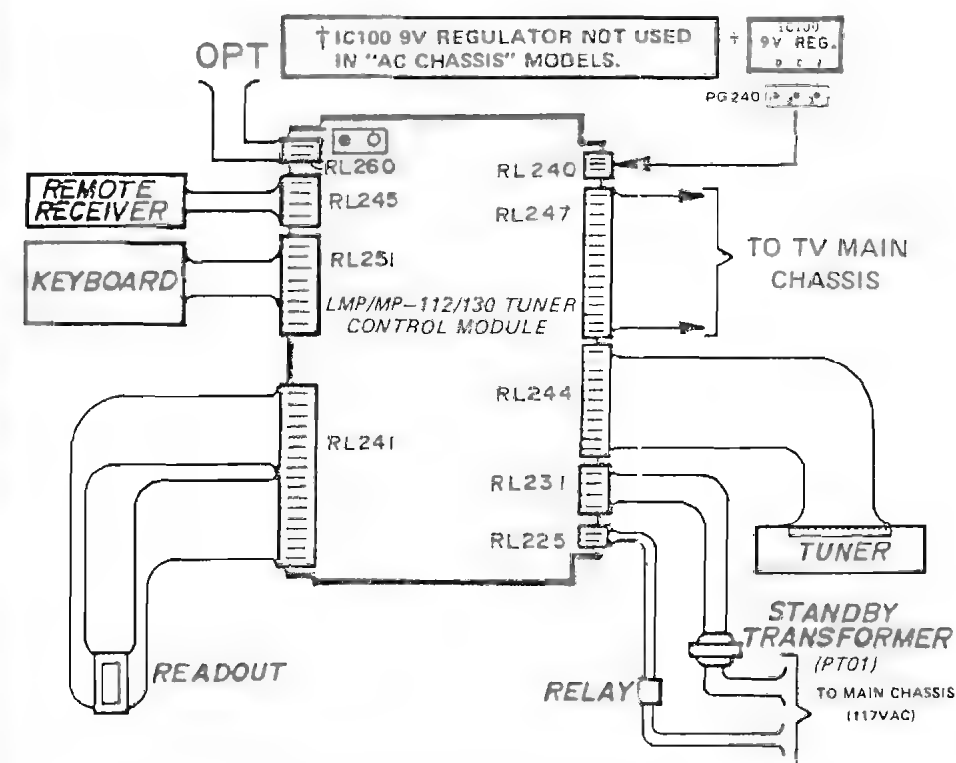
In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check

1. Tuner/Bandswitch transistors
2. Microprocessor (IC601)
3. Keyboard
4. IC600 (I/O) Chip
5. IC800 (E.AROM)
6. IC500 (PLL CHIP)

Categorized Symptoms

- No Remote control (Keyboard works OK) (Note: LMP/MP Keyboard follows favorite/sequential action of transmitter's button keyboard) Check Transmitter
- Dark Raster (LED Readout Display OK) Check U/V Tuner
- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only) Check Bandswitch Transistors
- No Channel, No Keyboard or Remote operation with Relay forced ON (LMP/MP) Check Microprocessor (IC601)
- No Last Channel or Favorite Channel Memory during power failure Check IC800
- Readout Display OK, but Channels Off-Frequency Check Bandswitch voltage, if OK, check IC500 (PLL Chip)

LMP/MP-112/130 TUNER CONTROL MODULE PLUG LOCATIONS



LMP/MP-112/130 TUNER CONTROL MODULE PLUG LOCATIONS

LMP/MP-112/130 ELECTRONIC TUNING SYSTEM REPLACEMENT PARTS LIST

LMP112 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
L920	EP36X33	CHOKE-56uh, 5% (19" & 25" PM Only)
L921	EP36X48	CHOKE-200uh, 5% (25" PM Only)
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
SEE MODEL PAGE	SEE MODEL PAGE	CHANNEL READOUT DISPLAY-Green
SEE MODEL PAGE	SEE MODEL PAGE	KEYBOARD-On/Off, Vol., Channel Select
	EP93X470	LMP112 TUNER CONTROL BOARD
	EP93X475	REMOTE CONTROL RECEIVER
	EP62X164	REMOTE CONTROL TRANSMITTER ASM.
* EP41X130		RELAY
* EP93X394		RELAY CIRCUIT BOARD-Bare
* EP93X415		UHF/VHF TUNER

LMP130 TUNING SYSTEM

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
L920	EP36X33	CHOKE-56uh, 5% (19" & 25" PM Only)
L921	EP36X48	CHOKE-200uh, 5% (25" PM Only)
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
SEE MODEL PAGE	SEE MODEL PAGE	CHANNEL READOUT DISPLAY-Green
SEE MODEL PAGE	SEE MODEL PAGE	KEYBOARD-On/Off, Vol., Channel Select
	EP93X465	LMP130 TUNER CONTROL BOARD
	EP93X480	REMOTE CONTROL RECEIVER
	EP62X164	REMOTE CONTROL TRANSMITTER ASM.
* EP41X130		RELAY
* EP93X394		RELAY CIRCUIT BOARD-Bare
* EP93X502		UHF/VHF TUNER

MP130 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
L920	EP36X33	CHOKE-56uh, 5% (19" & 25" PM Only)
L921	EP36X48	CHOKE-200uh, 5% (25" PM Only)
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
SEE MODEL PAGE	SEE MODEL PAGE	CHANNEL READOUT DISPLAY-Green
SEE MODEL PAGE	SEE MODEL PAGE	KEYBOARD-On/Off, Vol., Channel Select
	EP93X464	MP130 TUNER CONTROL BOARD (5 Button Keyboard)
	EP93X490	MP130 TUNER CONTROL BOARD (Random Access Keyboard)
	EP93X492	MP130 TUNER CONTROL BOARD (PM Only)
	EP93X482	REMOTE CONTROL RECEIVER
	EP62X165	REMOTE CONTROL TRANSMITTER ASM.
* EP41X130		RELAY
* EP93X394		RELAY CIRCUIT BOARD-Bare
* EP93X502		UHF/VHF TUNER

POWER SUPPLY INTERFACE BOARD

(AC CHASSIS ONLY)
EP93X457

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
* R2	EP14X366	85 Ohm, 5%, 1W, Metal Oxide
* R3	EP14X151	3.3 ohm, 5%, 1W, Metal Oxide
* R6	EP14X245	39 ohm, 5%, 1W, Metal Oxide
* R11	EP14X86	8.2K ohm, 5%, 2W, Metal Oxide

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q1	ES15X125	NPN, Silicon
Q2	ES15X125	NPN, Silicon
Q3	ES15X125	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y2	EP16X36	Zener
Y3	EP57X4	Rectifier, Silicon
Y4	EP57X5	Rectifier, Silicon

POWER SUPPLY INTERFACE BOARD

(BC CHASSIS ONLY)

EP93X499

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
* R05	EP14X346	18K ohm, 5%, 2W, Metal Oxide

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y01	EP57X4	Silicon
Y03	EP57X4	Silicon
Y05	EP57X4	Silicon
Y07	EP16X52	Zener
Y09	EP16X36	Zener

TUNER CONTROL MODULES LMP112 (EP93X470), LMP130 (EP93X465), MP130 (EP93X464, EP93X490, EP93X492):

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 Terminal 9V Regulator
IC500	EP84X220	PLL/Prescaler
IC600	EP84X222	Custom Interface
IC601	EP84X235	LMP112 Control (Microprocessor)
IC601	EP84X234	LMP130 Control (Microprocessor)
IC601	EP84X234	MP130 CONTROL (Microprocessor)
IC800	EP84X224	Alterable Read Only Memory

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q302	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q504	EP15X87	VCO Class NPN, Silicon (Q504 Not Used)
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 4.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
X500	EP41X68	CRYSTAL-Osc. Filter
L500	EP36X136	CHOKE-15uh, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microprocessor.

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, IC600, I/O, or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry.

Check the IF per Main Chassis troubleshooting chart. If OK, PROCEED TO ELECTRONIC TUNING TROUBLESHOOTING INFO. FOR POSSIBLE SOLUTION TO THE PROBLEM.

U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels: CH 1=28V, 5=20V, 13=19V, 33=6.5V and 82=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (+) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (+) IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

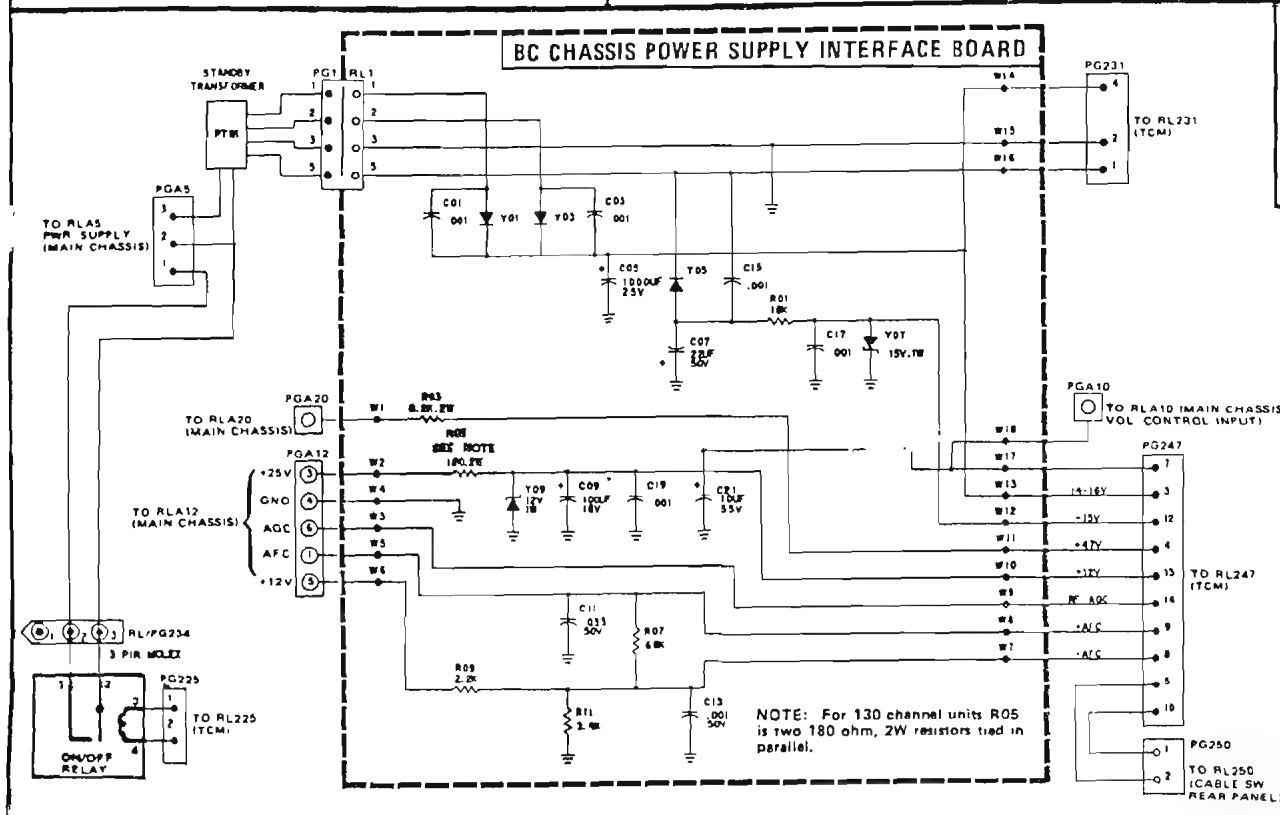
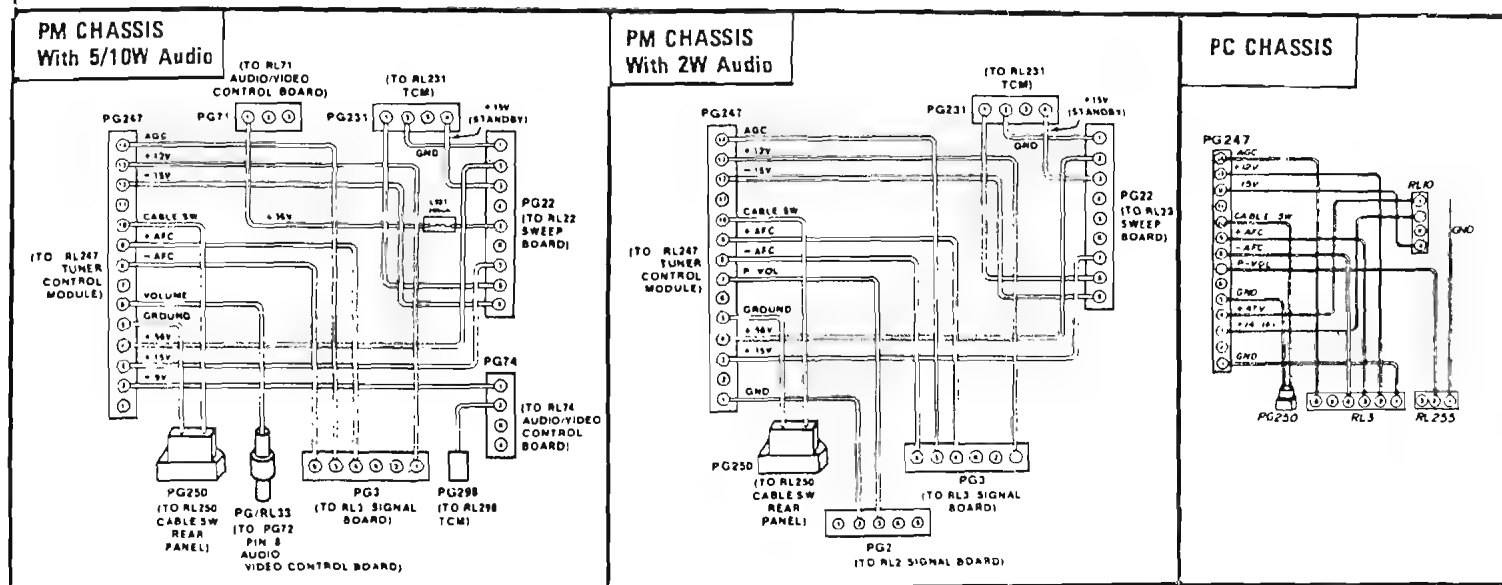
73E261853

MP1/LMP1-112/130 ELECTRONIC TUNING SYSTEM

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

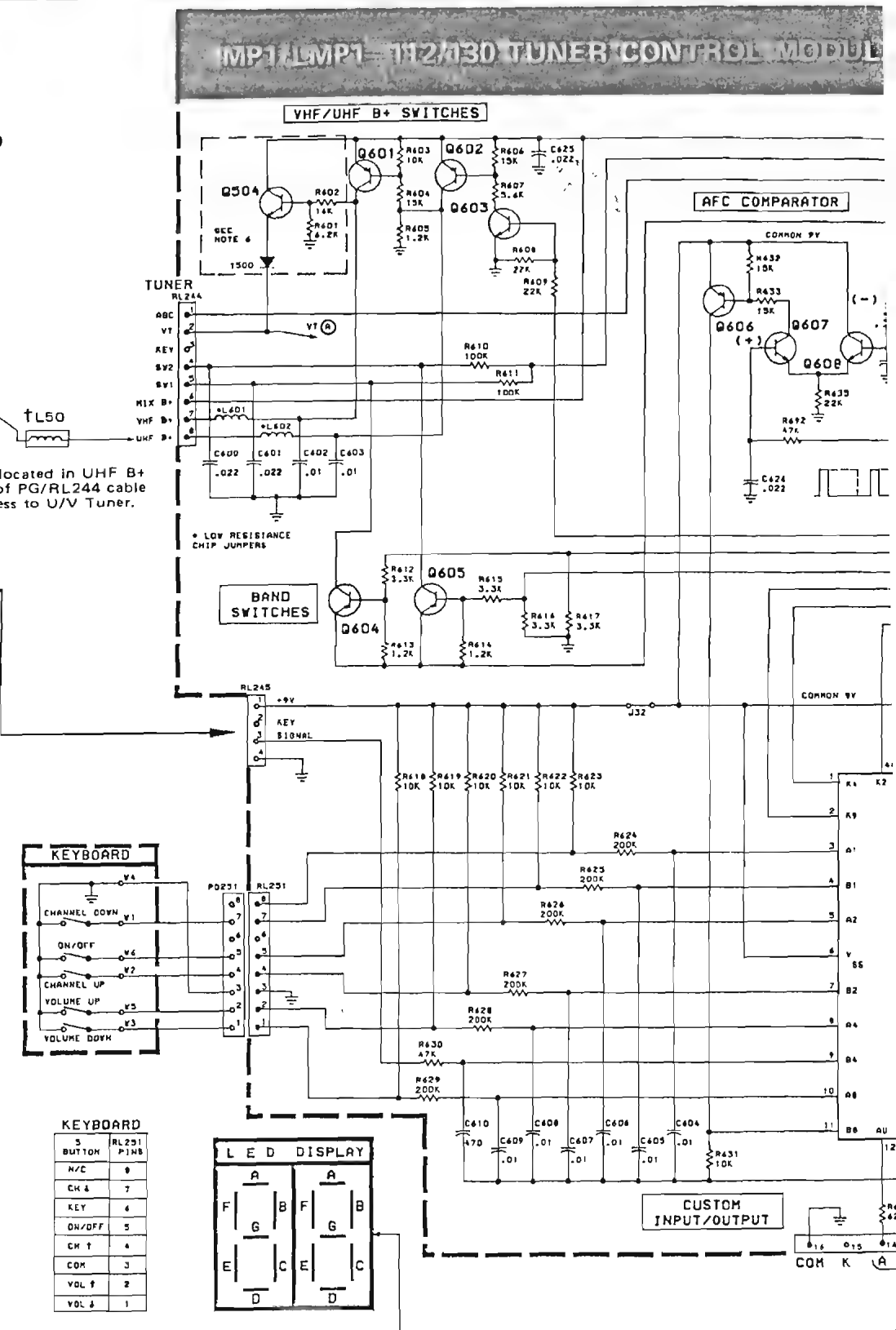
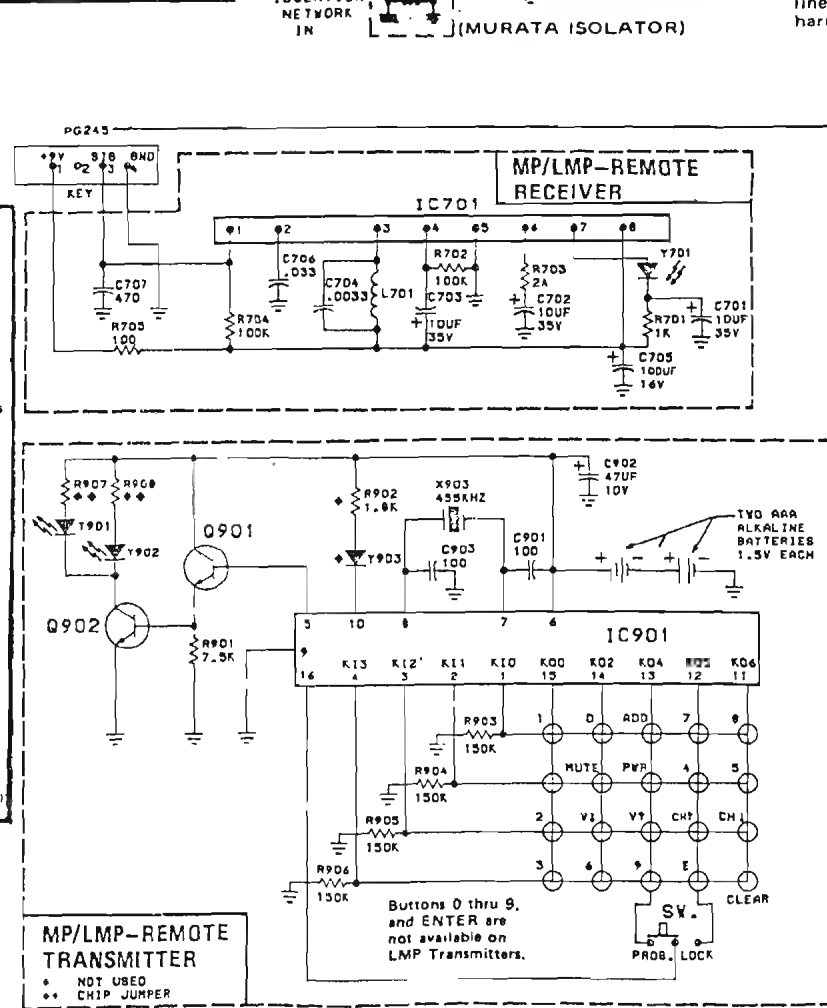
PM, PC, & BC CHASSIS INTERFACE CONNECTIONS TO TUNER CONTROL MODULE



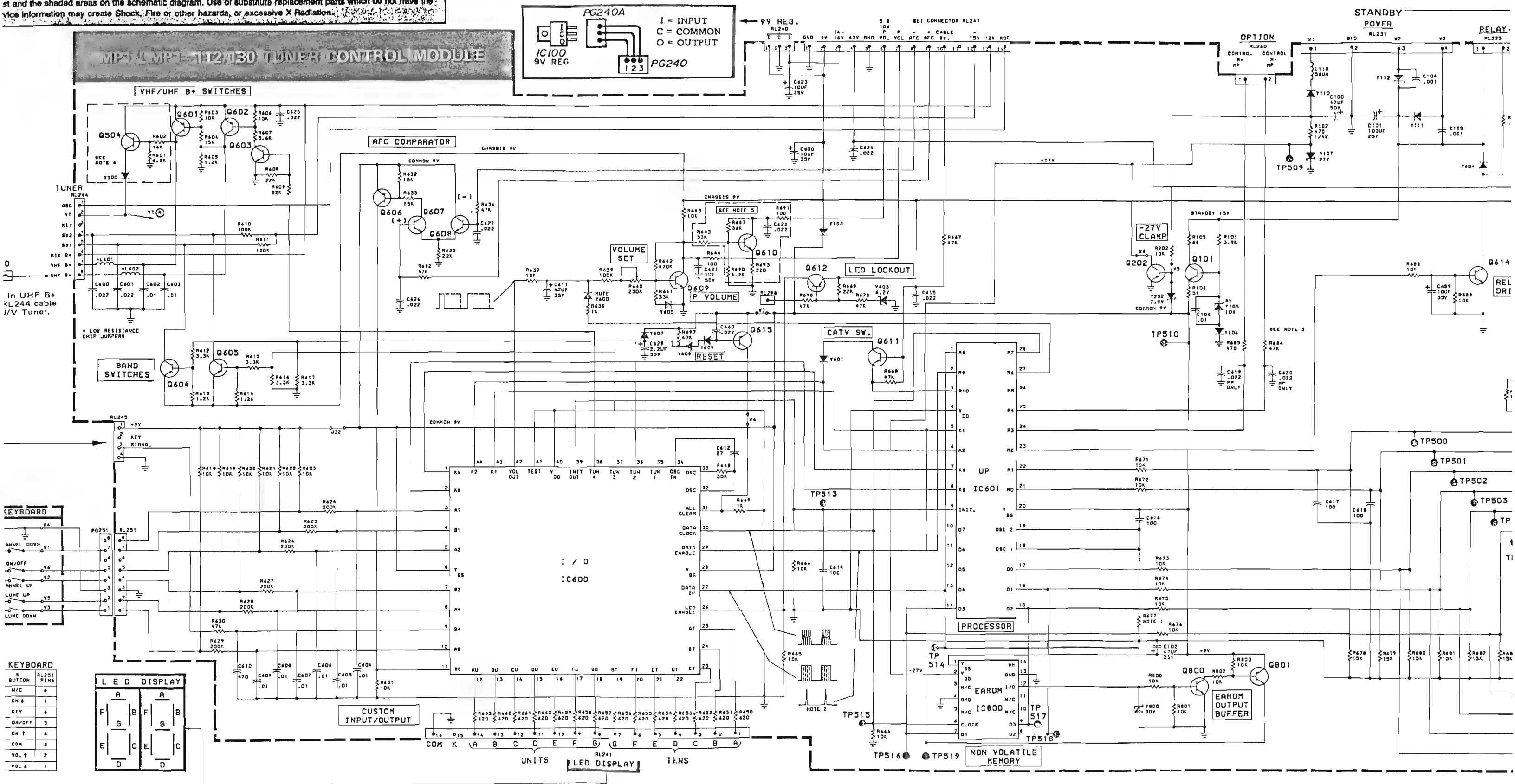
NOTE: For 130 channel units R05 is two 180 ohm, 2W resistors tied in parallel.

NOTES

1. SELECT FOR: 75-100 SIA FOR LMP 1K-1400 SIA FOR MP
2. SIBIA, YAFORMS SET UNLOCKED ON CHANNEL 1
3. OPTION CIRCUIT NOT INSTALLED ON SOME MODELS
4. UNLESS OTHERWISE NOTED ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS; ALL VALUES GREATER THAN 1 ARE IN PICO-FARADS.
5. COMPONENTS NOT USED ON LMP MODELS BUT MAY BE ON BOARD.
6. COMPONENTS MAY NOT BE IN ALL BOARDS.



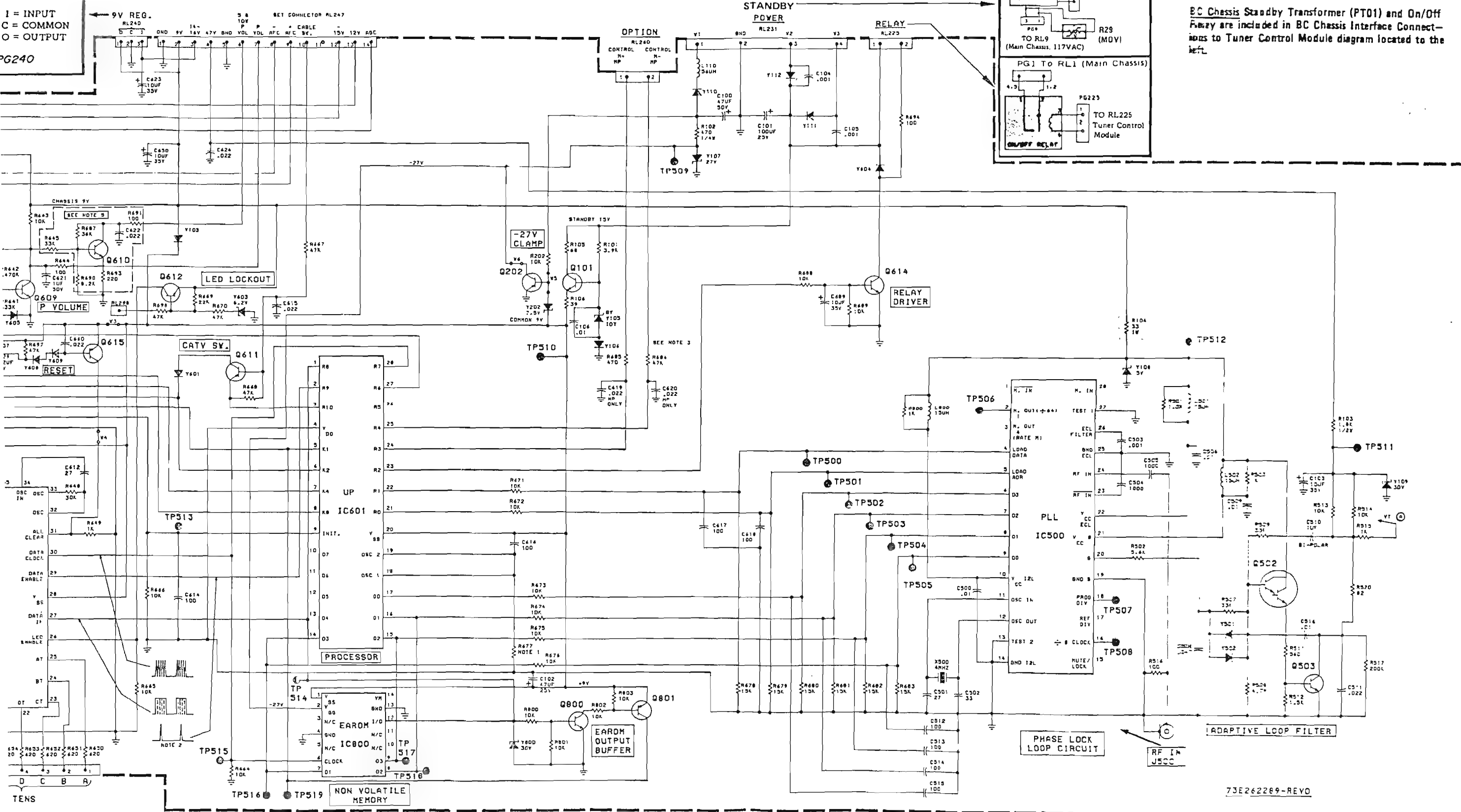
acement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement st and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the vice information may create Shock, Fire or other hazards, or excessive X-radiation.



PC CHASSIS

NOTE: PM Chassis Standby Transformer (T901) and On/Off Relay (RY900) are located on the Sweep Bd. of the Main Chassis. Refer to PM Chassis (Basic Receiver) Schematic Diagram for circuit connections.

PC Chassis Standby Transformer (PT01) and On/Off Relay are included in PC Chassis Interface Connections to Tuner Control Module diagram located to the left.



73E262289-REV0

MP1/LMP1-112/130 "REMOTE" ELECTRONIC TUNING SYSTEM

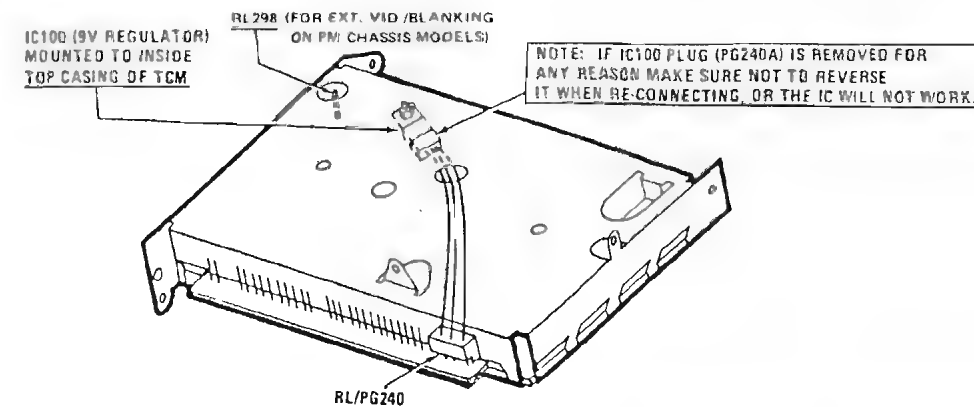
MINI-MANUAL
SERVICE INFORMATION
FOR TECHNICIAN
USE ONLY
ACCESSIBLE FROM INSIDE
TV SET ONLY

73E261853-7

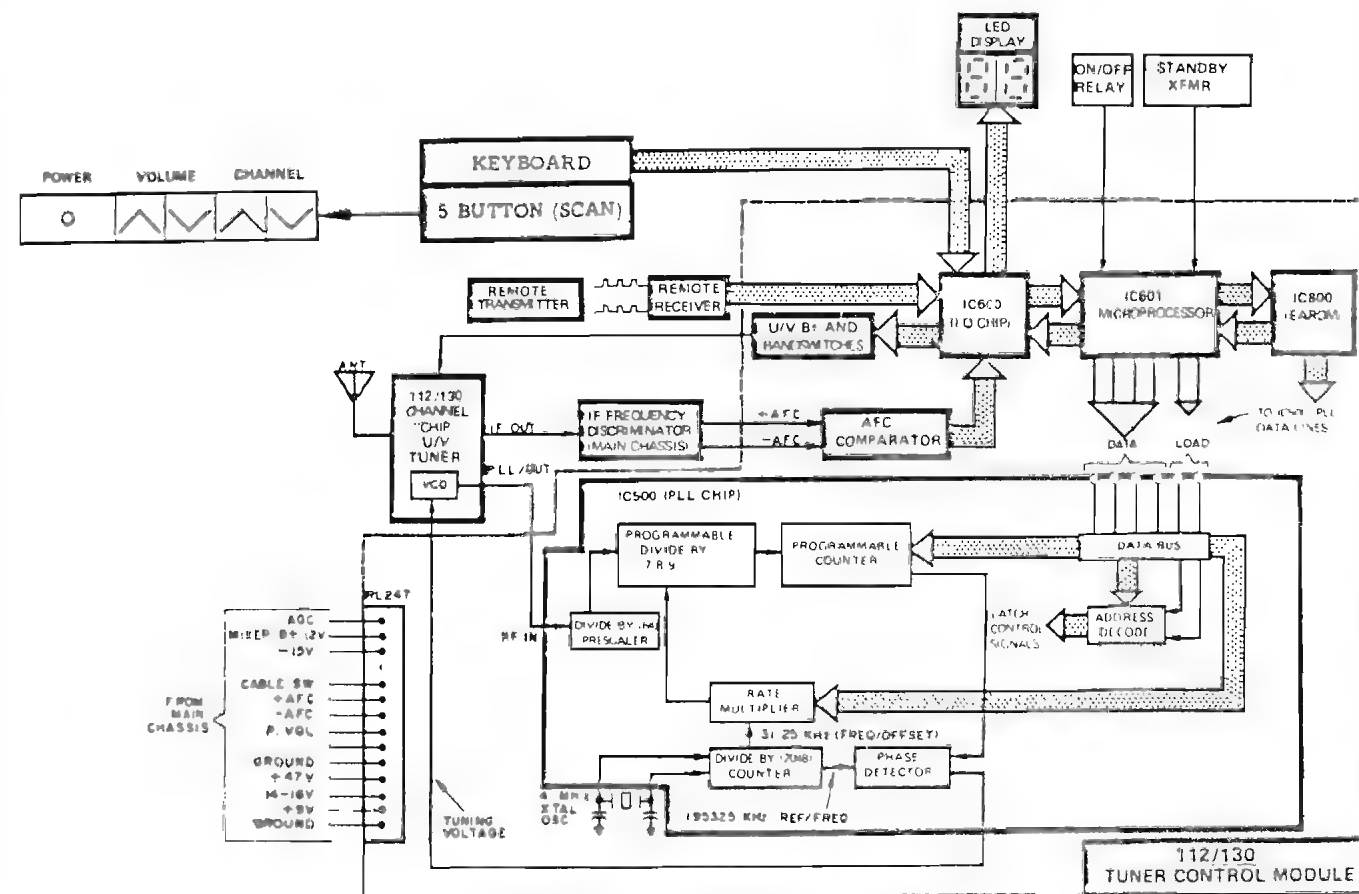
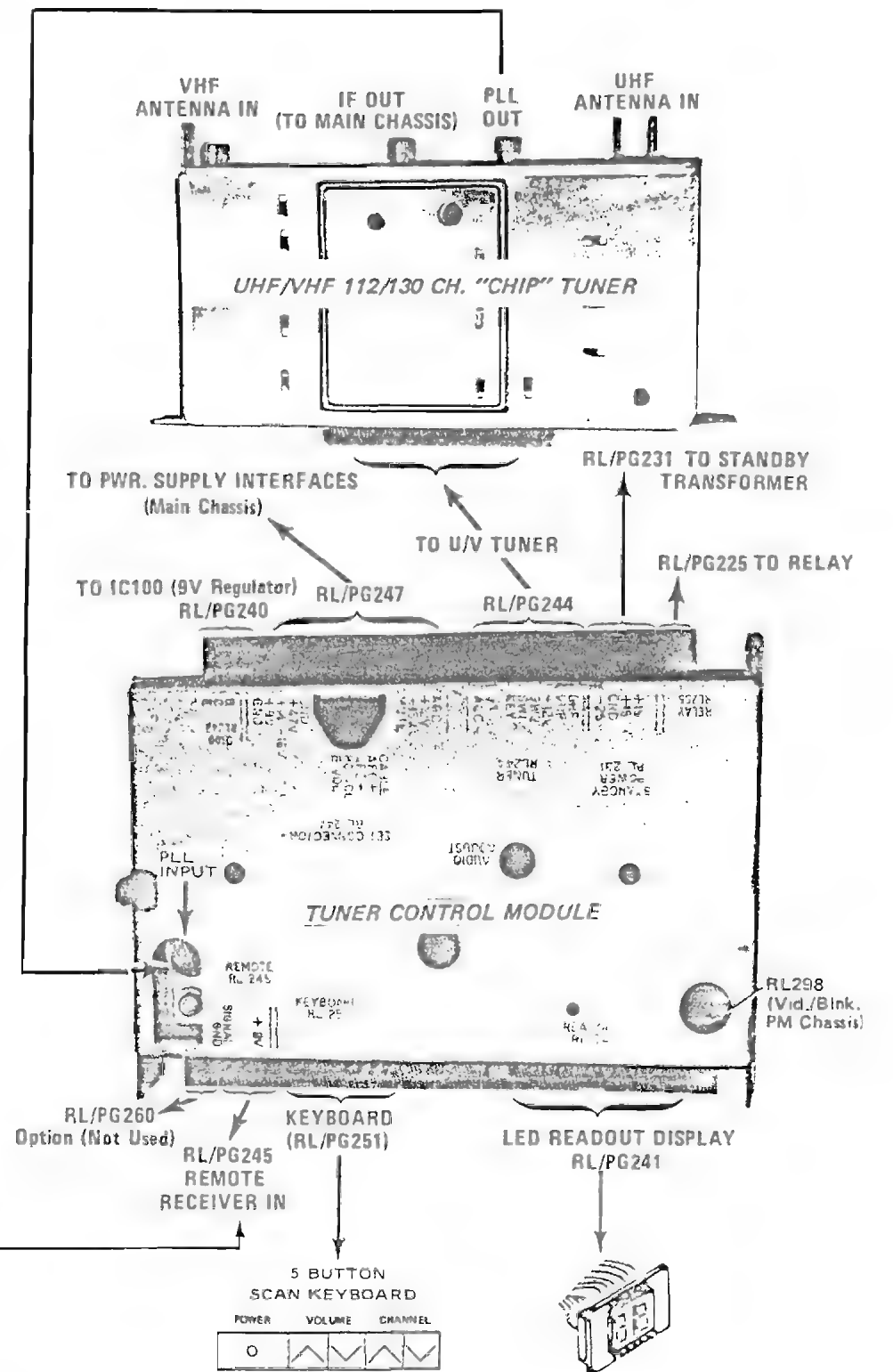
NOTICE TO TECHNICIAN:

THIS MINI-MANUAL IS CUSTOMER PROPERTY.
PLEASE REPLACE IN SET WHEN SERVICING IS
COMPLETED.

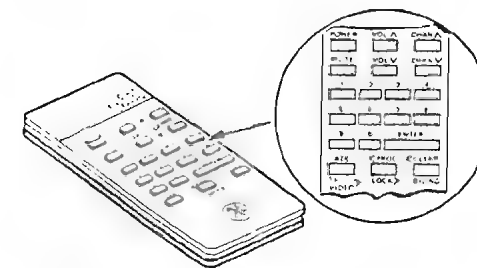
112/130 TUNER CONTROL MODULE WITH IC100 (9V REGULATOR)



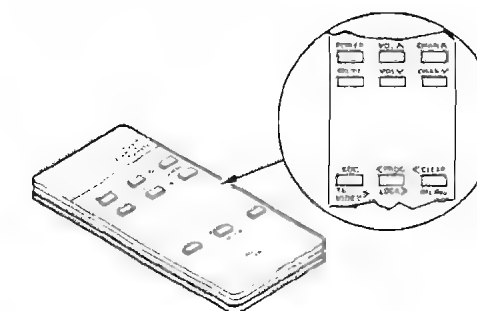
112/130 TUNING SYSTEM COMPONENT ASSEMBLIES



REMOTE RECEIVER



MP1 (DUAL-MODE) REMOTE TRANSMITTER



LMP1 (SCAN) REMOTE TRANSMITTER

112/130 TUNING SYSTEM TROUBLESHOOTING INFORMATION

General: To help troubleshoot the 112/130 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.

Preliminary

Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Power Supplies

1. Do not unplug, but do check all voltages at RL/PG247. Check +15V only if IC100 (9V Regulator) is included with tuner control module).
2. Check RL231, pin 1 for 30 to 38VAC (supply for B minus (-) 27V supply to IC800, (EAROM)).
3. Check RL225, pin 1 for ON/OFF Relay B+ 13 to 17VDC.
4. Check RL245, pin 1 for Remote Receiver B+ 7.5 to 8.5 VDC.

NOTE

RL225 Pin 1, +15 V must be correct before the set will switch on. If supplies are OK, the ON/OFF relay may be forced on by grounding pin 2 of RL/PG225 through a 100 ohm, 1/2 watt resistor. Replace Q614 if necessary, otherwise inspect TV power supplies.

Troubleshooting Order

In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check:

1. Tuner/Bandswitch transistors (Q601-Q605)
2. IC601 (Microprocessor)
3. Keyboard
4. IC600 (I/O)
5. IC800 (EAROM)
6. IC500 (PLL)

Categorized Symptoms

- No Remote Control (Keyboard OK). Note: Scan Keyboards follow favorite/sequential action of transmitter. Check Transmitter

Dark Raster (LED Display OK)
Check U/V Tuner

- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
Check Bandswitch Transistors (Q601-Q605)

- No Channel, No Keyboard or Remote operation with Relay forced ON (Remote Systems only)
Check IC601 (Microprocessor)

- No Last Channel or Favorite Channel Memory during power failure.
Check IC800 (EAROM)

- LED Display OK (Channels Off-Frequency)
Check Bandswitch voltages, if OK, check IC 500 (PLL Chip).

- No Picture (Channel LED Display incorrect)
Check Keyboard, IC600 (I/O) and IC601 (uP)

Picture OK (Channel LED Display incorrect)
Check IC600 (I/O) IC601(uP) and LED Display

No Picture (Channel LED Display OK)
Check *U/V Tuner, Video IF (Main Chassis), Standby Power Supply, IC601 (uP) IC500 (PLL) and associated circuitry.

Before proceeding:
Check the Main Chassis Video IF. If OK, proceed to U/V Tuner Check below.

U/V TUNER CHECK: (No Picture, Channel LED Display OK)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels; CH. 1 (28V), 6 (20V), 13 (19V), 33 (6.5V) and 82 (26V). The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28VDC at RL244, Pin 2) and connect end of a potentiometer (10K-15K) to the tuning voltage terminal (yellow wire). Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective (replace U/V Tuner).

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

MP1/LMP1-112/130 ELECTRONIC TUNING SYSTEM (PARTIAL) REPLACEMENT PARTS LIST

MP1/LMP1-112/130 TUNING SYSTEM

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOK-220uh, 10%
L921	EP36X48	CHOK-200uh, 5% (25" PM Only)
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X97	CABLE-Coaxial, From Tuner To Tuner Control Board
RL244B	EP8X91	CONNECTOR-2 Pos.
	EP93X541	MP1/LMP1-112/130 TUNER CONTROL BOARD
	EP93X482	REMOTE CONTROL RECEIVER
	SEE MODEL PAGE	REMOTE CONTROL TRANSMITTER ASM.
	* EP41X130	RELAY
	* EP93X394	RELAY CIRCUIT BOARD-Bare
	* EP93X539	UHF/VHF TUNER (MP1/LMP1-112)
	* EP93X502	UHF/VHF TUNER (MP1/LMP1-130)

MP1/LMP1-112/130 TUNER CONTROL CIRCUIT BOARD

EP93X541

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47uf, 20%, 50V, Elect.
C101	EP31X162	100uf, 20%, 25V, Elect.

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. 9V REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM INTERFACE
IC601	EP84X234	MP130 CONTROL MICROPROCESSOR
IC800	EP84X224	EAROM

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	-27V Clamp, PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon

Q503	EP15X87	Loop Filter Amp., NPN, Sil
Q601	EP15X225	B+ Switch, PNP, Silicon
Q602	EP15X225	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	Comparator, PNP, Silicon
Q607	EP15X88	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X88	P Volume, NPN, Silicon
Q610	EP15X88	E/A Volume, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	Relay Driver, NPN, Silicon
Q615	EP15X48	Reset, PNP, Silicon
Q800	EP15X87	EAROM Output Buffer, NPN, :
Q801	EP15X48	EAROM Output Buffer, PNP, :

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener, 10V
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 5.1V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

POWER SUPPLY INTERFACE CIRCUIT BOARD

EP93X499

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R1	EP14X414	18K ohm, 5%, 1/4W, Carbon
* R3	EP14X56	8.2K ohm, 5%, 2W, Metal Oxid
* R5	EP14X346	180 ohm, 5%, 2W, Metal Oxid
* R11	EP14X411	2.4K ohm, 5%, 1/4W, Carbon

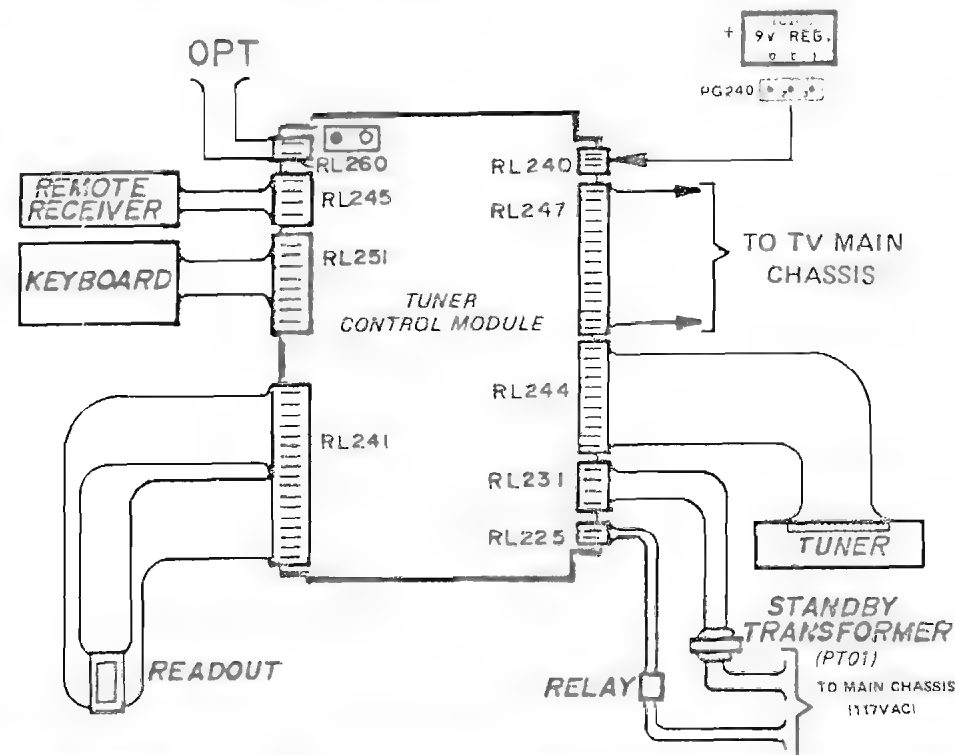
DIODES

REF. NO.	PART NO.	DESCRIPTION
Y1	EP57X4	Rectifier, Silicon
Y3	EP57X4	Rectifier, Silicon
Y5	EP57X4	Rectifier, Silicon
Y7	EP16X52	Zener
Y9	EP16X36	Zener, 1W

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

112/130 TUNER CONTROL MODULE PLUG LOCATIONS



112/130 TUNING SYSTEM TROUBLESHOOTING INFORMATION

Root the 112/130 tuning systems most frequent symptoms as well as module troubleshooting information, for low of information, for parts not applicable for repair.

Troubleshooting Order

In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check:

1. Tuner/Bandswitch transistors (Q601-Q605)
2. IC601 (Microprocessor)
3. Keyboard
4. IC600 (I/O)
5. IC800 (EARM)
6. IC500 (PLL)

Categorized Symptoms

- No Remote Control (Keyboard OK). Note: Scan Keyboards follow favorite/sequential action of transmitter. Check Transmitter

Dark Raster (LED Display OK)
Check U/V Tuner

Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
Check Bandswitch Transistors (Q601-Q605)

- No Channel, No Keyboard or Remote operation with Relay forced ON (Remote Systems only)
Check IC601 (Microprocessor)

- No Last Channel or Favorite Channel memory during power failure.
Check IC800 (EARM)

LED Display OK (Channels Off Frequency)
Check Bandswitch voltages, if OK, check IC 500 (PLL Chip).

- No Picture (Channel LED Display Incorrect)
Check Keyboard, IC600 (I/O) and IC601 (uP)

- Picture OK (Channel LED Display Incorrect)
Check IC600 (I/O), IC601(uP) and LED Display

- No Picture (Channel LED Display OK)
Check * U/V Tuner, Video IF (Main Chassis), Standby Power Supply, IC601 (uP) IC500 (PLL) and associated circuitry.

- Before proceeding:
Check the Main Chassis Video IF. If OK, proceed to U/V Tuner Check below.

U/V TUNER CHECK: (No Picture, Channel LED Display OK)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels; CH. 1 (28V), 6 (20V), 13 (19V), 33 (6.5V) and 82 (26V). The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28VDC at RL244, Pin 2) and connect end of a potentiometer (10K-15K) to the tuning voltage terminal (yellow wire). Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective (replace U/V Tuner).

If a station can be tuned in with the potentiometer, the problem could be the microprocessor (IC601), or the PLL (IC500).

MP1/LMP1-112/130 ELECTRONIC TUNING SYSTEM (PARTIAL) REPLACEMENT PARTS LIST

MP1/LMP1-112/130 TUNING SYSTEM

RESISTOR		
REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT		
REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS		
REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10Z
L921	EP36X48	CHOKE-200uh, 5Z (25" PM Only)
* PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS		
REF. NO.	PART NO.	DESCRIPTION
	EP8X97	CABLE-Coaxial, From Tuner To Tuner Control Board
RL244B	EP8X91	CONNECTOR-2 Pos.
	EP93X541	MP1/LMP1-112/130 TUNER CONTROL BOARD
	EP93X482	REMOTE CONTROL RECEIVER
	SEE MODEL PAGE	REMOTE CONTROL TRANSMITTER ASM.
	* EP41X130	RELAY
	* EP93X394	RELAY CIRCUIT BOARD-Bare
	* EP93X539	UHF/VHF TUNER (MP1/LMP1-112)
	* EP93X502	UHF/VHF TUNER (MP1/LMP1-130)

Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q601	EP15X225	B+ Switch, PNP, Silicon
Q602	EP15X225	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X46	Band Switch, PNP, Silicon
Q605	EP15X46	Band Switch, PNP, Silicon
Q606	EP15X46	Comparator, PNP, Silicon
Q607	EP15X86	Comparator, NPN, Silicon
Q608	EP15X88	Comparator, NPN, Silicon
Q609	EP15X56	P Volume, NPN, Silicon
Q610	EP15X88	E/A Volume, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X46	LED Lockout, PNP, Silicon
Q614	EP15X57	Relay Driver, NPN, Silicon
Q615	EP15X46	Reset, PNP, Silicon
Q800	EP15X57	EARM Output Buffer, NPN, Silicon
Q801	EP15X46	EARM Output Buffer, PNP, Silicon

DIODES		
REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X153	Zener, 10V
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5.1V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	ES16X27	Silicon
Y603	EP16X153	Zener, 5.1V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

MP1/LMP-112/130 TUNER CONTROL CIRCUIT BOARD

CAPACITORS		
REF. NO.	PART NO.	DESCRIPTION
C100	EP31X45	47uf, 20Z, 50V, Elect.
C101	EP31X162	100uf, 20Z, 25V, Elect.

INTEGRATED CIRCUITS		
REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. 9V REG.
IC500	EP84X220	PLL/PRESCALE
IC600	EP84X222	CUSTOM INTERFACE
IC601	EP84X234	MP130 CONTROL MICROPROCESSOR
IC800	EP84X224	EARM

TRANSISTORS		
REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	-27V Clamp, PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon

POWER SUPPLY INTERFACE CIRCUIT BOARD

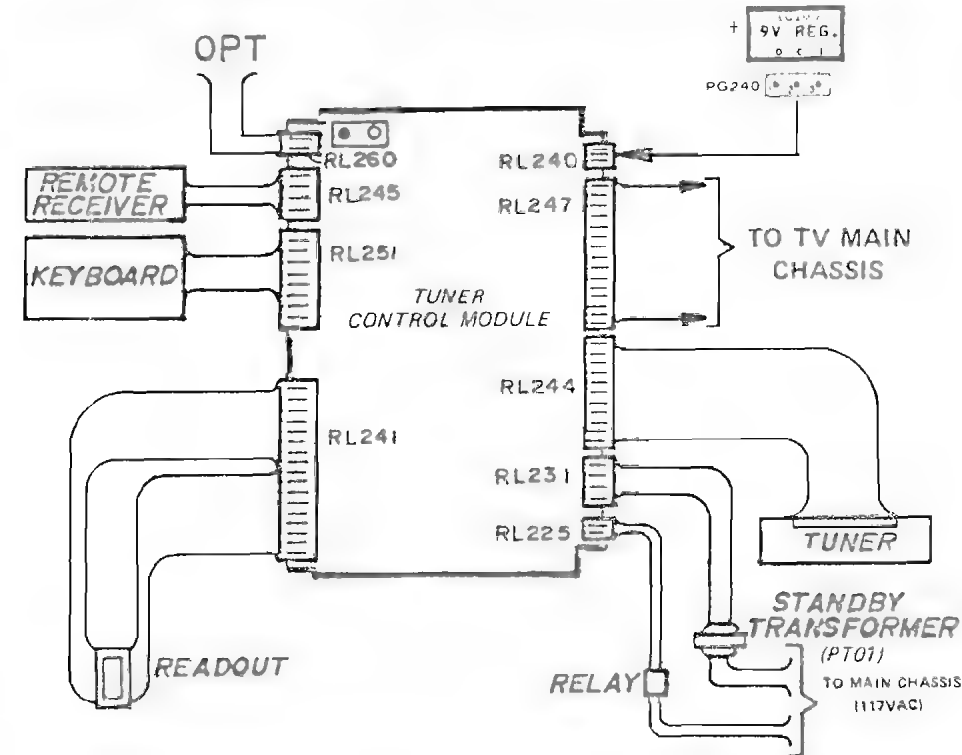
RESISTORS		
REF. NO.	PART NO.	DESCRIPTION
R1	EP14X414	18K ohm, 5Z, 1/4W, Carbon
* R3	EP14X56	8.2K ohm, 5Z, 2W, Metal Oxide
* R5	EP14X346	180 ohm, 5Z, 2W, Metal Oxide
* R11	EP14X411	2.4K ohm, 5Z, 1/4W, Carbon

DIODES		
REF. NO.	PART NO.	DESCRIPTION
Y1	EP57X4	Rectifier, Silicon
Y3	EP57X4	Rectifier, Silicon
Y5	EP57X4	Rectifier, Silicon
Y7	EP16X52	Zener
Y9	EP16X36	Zener, 1W

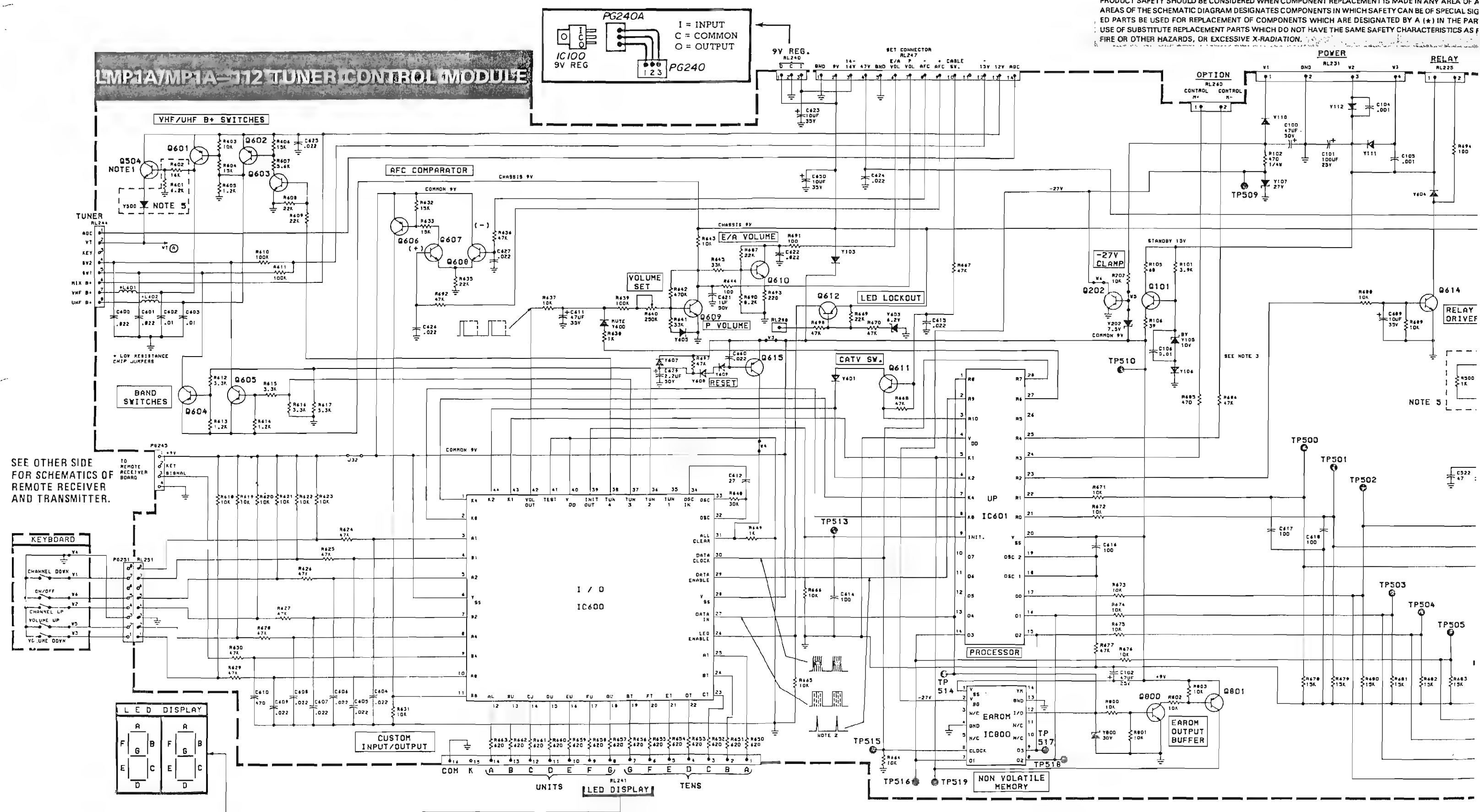
IMPORTANT SAFETY NOTICE

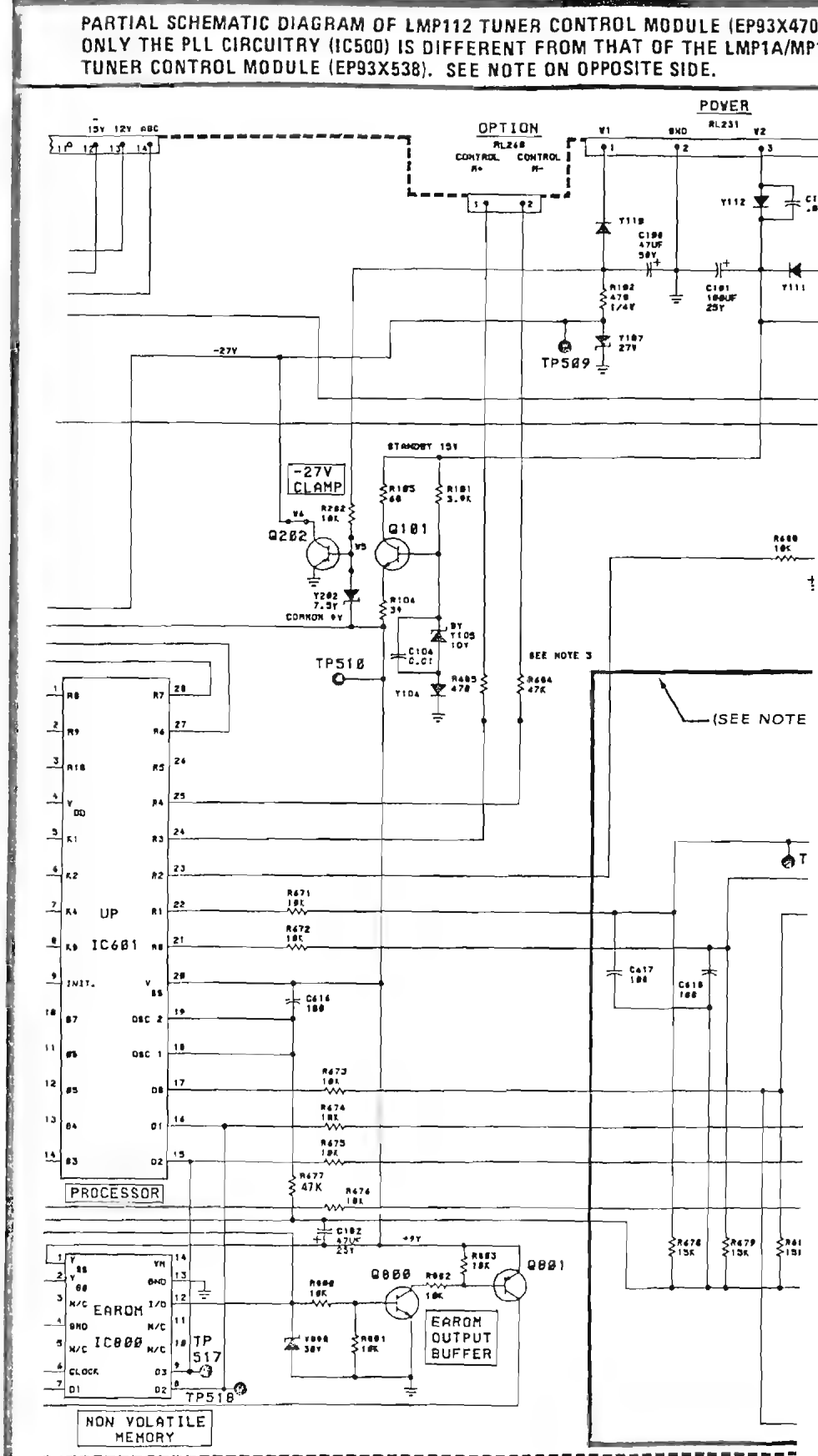
Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

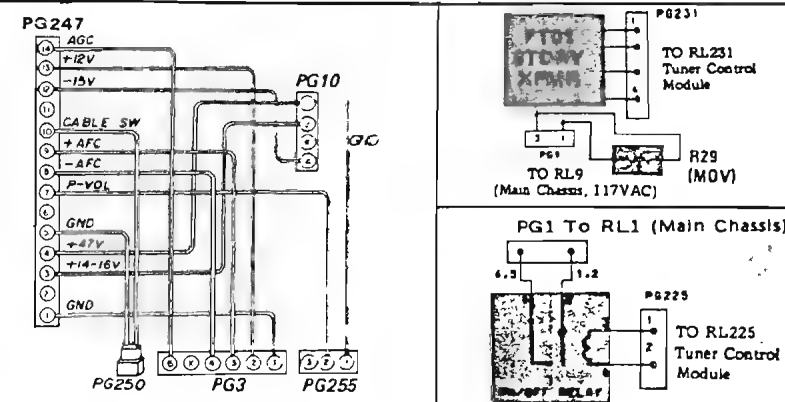
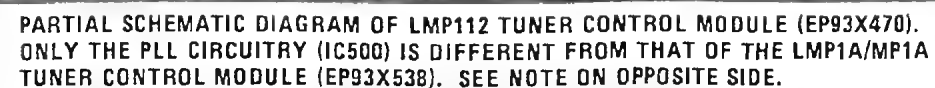
112/130 TUNER CONTROL MODULE PLUG LOCATIONS



PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. DO NOT USE SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS THE ORIGINAL PARTS. FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.







LMP1A/MP1A-112 "REMOTE" ELECTRONIC TUNING SYSTEM

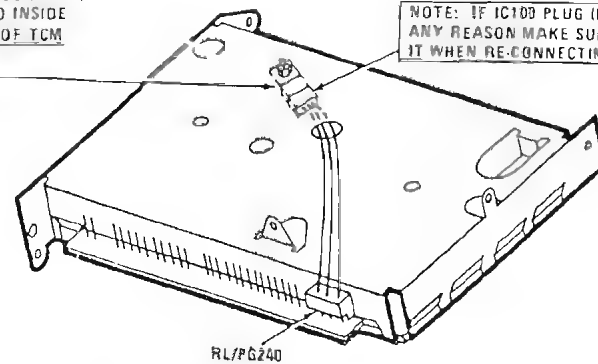
MINI-MANUAL

SERVICE INFORMATION
FOR TECHNICIAN
USE ONLY
ACCESSIBLE FROM INSIDE
TV SET ONLY

73E261923-1

LMP1A/MP1A-112 TUNER CONTROL MODULE WITH IC100 (9V REGULATOR)

IC100 (9V REGULATOR)
MOUNTED TO INSIDE
TOP CASING OF TCM

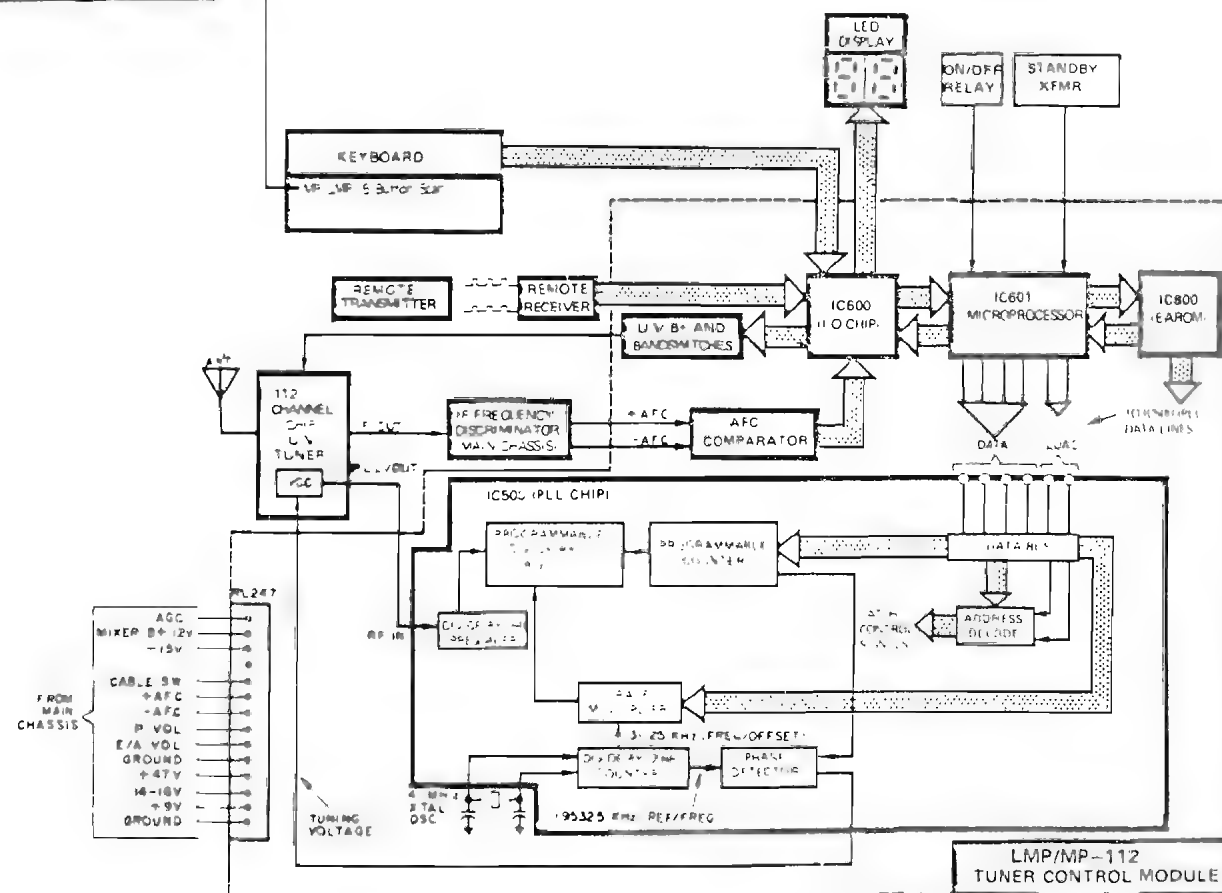


NOTE: IF IC100 PLUG (PG240A) IS REMOVED FOR
ANY REASON MAKE SURE NOT TO REVERSE
IT WHEN RE-CONNECTING, OR THE IC WILL NOT WORK.

NOTE: THE TUNER CONTROL MODULE USED IN THIS RECEIVER MAY BE EITHER A LMP1A/MP1A-112 TYPE PART
NUMBER EP93X538 OR A LMP112 TYPE PART NUMBER EP93X470. ALL OTHER TUNING SYSTEM COMPONENTS ARE
THE SAME. SCHEMATIC DIAGRAMS SHOWN ON THE OPPOSITE SIDE ARE FOR BOTH SYSTEMS INDICATING ONLY
THE PLL CIRCUITRY (IC500) WHICH IS DIFFERENT FOR EACH TUNER CONTROL MODULE.

LMP1A/MP1A-112 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM

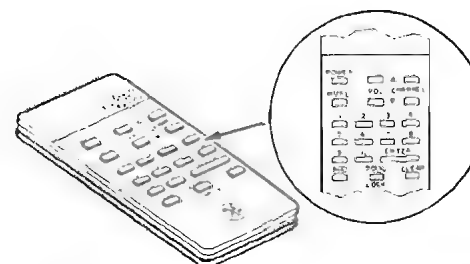
5 BUTTON (SCAN)
KEYBOARD



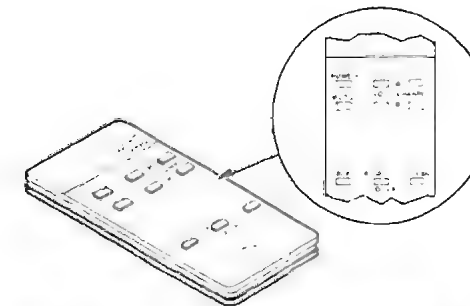
LMP/MP-112 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM



LMP/MP-112 REMOTE RECEIVER

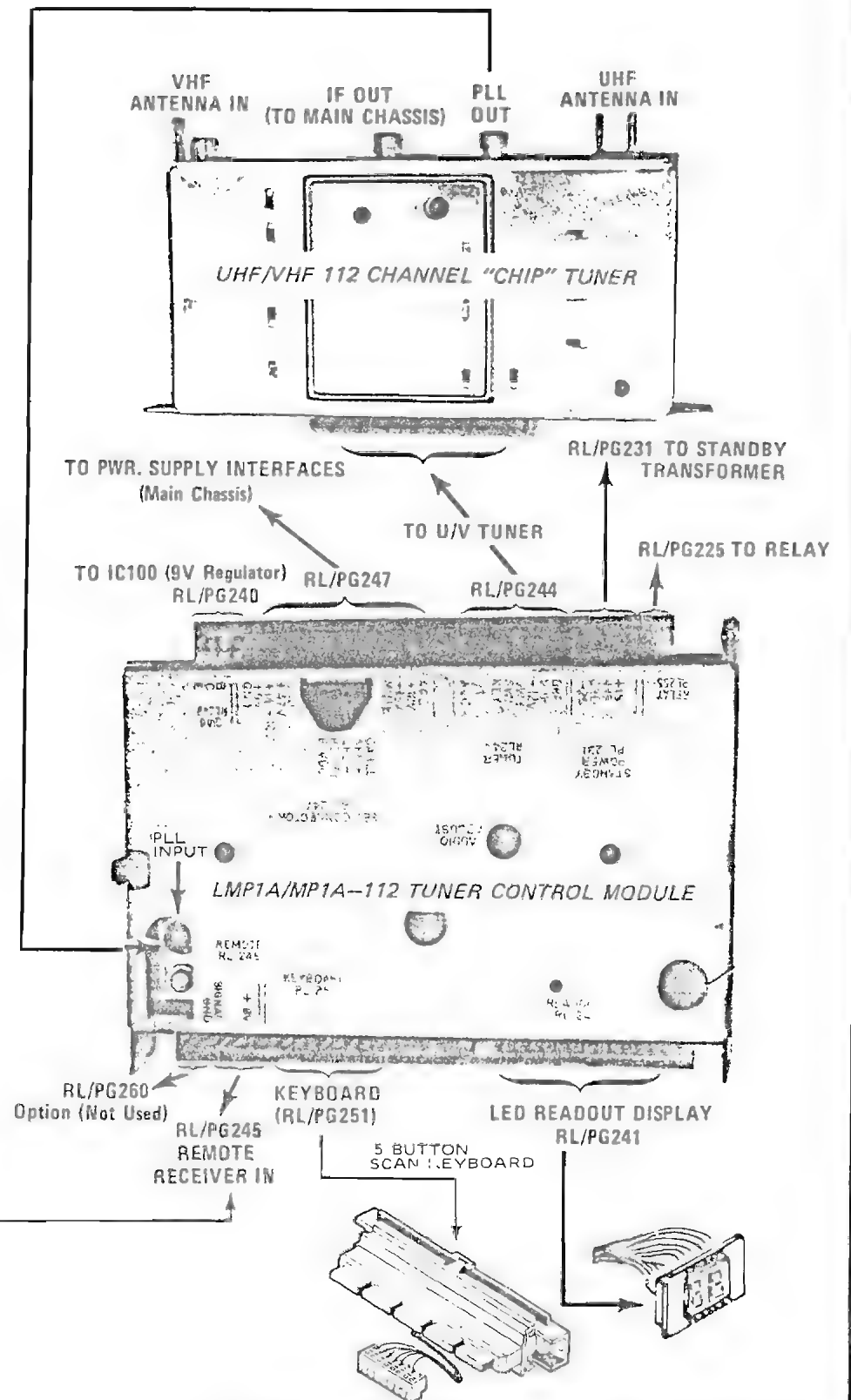


MP-112 REMOTE TRANSMITTER



LMP-112 REMOTE TRANSMITTER

LMP1A/MP1A-112 TUNING SYSTEM COMPONENT ASSEMBLIES



LMP1A/MP1A-112 TUNING SYSTEM COMPONENT
ASSEMBLIES

LMP1A/MP1A-112 TUNING SYSTEM TROUBLESHOOTING INFORMATION

LMP1A/MP1A-112 ELECTRONIC TUNING SYSTEM REPLACEMENT PARTS LIST

General

To help troubleshoot the 112 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.

Power Supplies

1. Do not unplug, but do check all voltages at RL/PG247 (Check +15V only if IC regulator is included with tuner control module).
2. Check RL231, pin 1 for 30 to 38VAC (supply for B minus (-) 27V supply to IC800, EAROM).
3. Check RL225, pin 1 for ON/OFF Relay B+ 13 to 17VDC.
4. Check RL245, pin 1 for Remote Receiver B+ 7.5 to 8.5VDC.

NOTE:

RL225 Pin 1, +15 V must be correct before the set will switch on. If supplies are OK, the On/OFF relay may be forced on by grounding pin 2 of RL/PG225 through a 100 ohm, 1/2 watt resistor. Replace Q614 if necessary, otherwise inspect TV power supplies.

5. Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Troubleshooting Order

In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check

1. Tuner/Bandswitch transistors
2. Microprocessor (IC601)
3. Keyboard
4. IC600 (I/O) Chip
5. IC800 (EAROM)
6. IC500 (PLL CHIP)

Categorized Symptoms

- No Remote control (Keyboard works OK) (Note: LMP/MP Keyboard follows favorite/sequential action of transmitter's button keyboard). Check Transmitter.
- Dark Raster (LED Readout Display OK) Check U/V Tuner.
- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only) Check Bandswitch Transistors.
- No Channel, No Keyboard or Remote operation with Relay forced ON (LMP/MP) Check Microprocessor (IC601).
- No Last Channel or Favorite Channel Memory during power failure Check IC800.
- Readout Display OK, but Channels Off-Frequency Check Bandswitch voltage. If OK, check IC500 (PLL Chip).

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microprocessor.

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O), or the LED display unit.

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry.

Check the IF per Main Chassis troubleshooting chart. If OK, PROCEED TO ELECTRONIC TUNING TROUBLESHOOTING INFO. FOR POSSIBLE SOLUTION TO THE PROBLEM.

U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following channels. CH 1=28V, 6=20V, 13=19V, 33=6.5V and 82=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

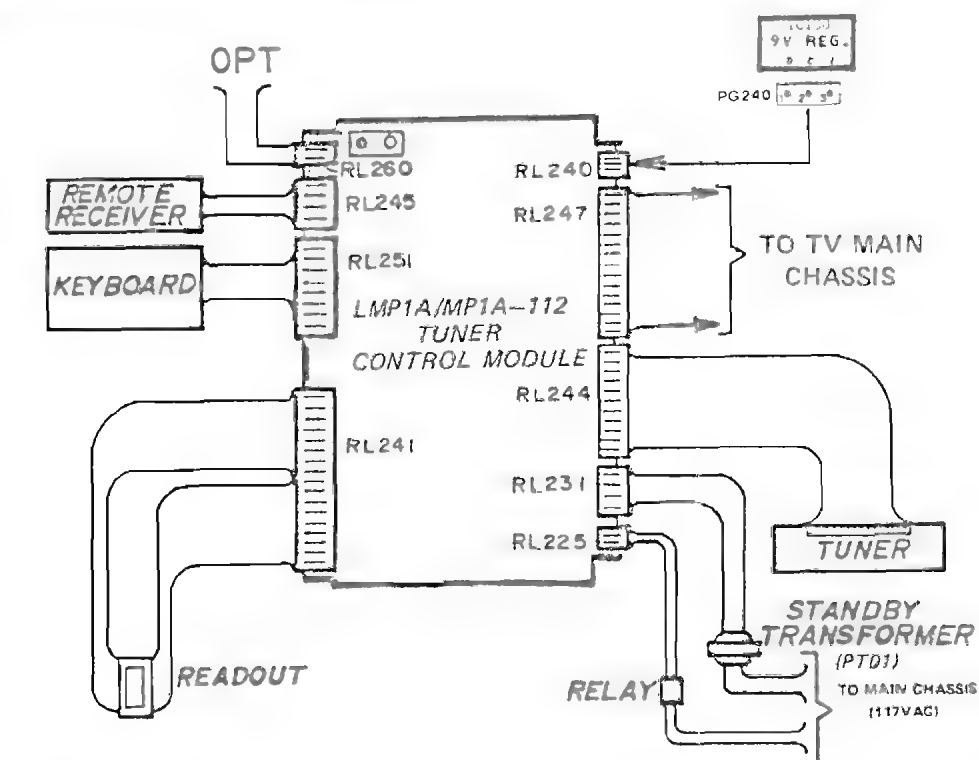
LMP112 TUNING SYSTEM

RESISTOR		
REF. NO.	PART NO.	DESCRIPTION
★ R29	EP14X326	VARISTOR-"MOV", Metal Oxide
INTEGRATED CIRCUIT		
REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator
COILS & TRANSFORMER		
REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
★ PT01	EP88X43	TRANSFORMER-Power
MISCELLANEOUS		
REF. NO.	PART NO.	DESCRIPTION
SEE MODEL PAGE	SEE MODEL PAGE	CHANNEL READOUT DISPLAY-Green
EP93X470	EP93X470	KEYBOARD-On/Off, Vol., Channel Select
EP93X475	EP93X475	LMP112 TUNER CONTROL BOARD
EP62X164	EP62X164	REMOTE CONTROL RECEIVER
★ EP41X130	★ EP41X130	REMOTE CONTROL TRANSMITTER ASM.
★ EP93X394	★ EP93X394	RELAY
★ EP93X415	★ EP93X415	RELAY CIRCUIT BOARD-Bare
		UHF/VHF TUNER

LMP1A/MP1A-112 TUNING SYSTEM

RESISTOR			SEE MODEL PAGE 1
REF. NO.	PART NO.	DESCRIPTION	
★ R29	EP14X326	VARISTOR-"MOV", Metal Oxide	EP93X538
INTEGRATED CIRCUIT			
REF. NO.	PART NO.	DESCRIPTION	
IC100	EW84X230	3 Terminal 9V Regulator	★ EP93X544
			EP62X164
			★ EP93X480
			★ EP93X415
COILS & TRANSFORMER			
REF. NO.	PART NO.	DESCRIPTION	
L50	ES36X82	CHOKE-220uh, 10%	
★ PT01	★ EP41X132	RELAY	
	EP88X43	TRANSFORMER-Power	
MISCELLANEOUS			
REF. NO.	PART NO.	DESCRIPTION	
SEE MODEL PAGE	SEE MODEL PAGE	CABLE-Coaxial, 36" W/Phono Plugs	
		CHANNEL NUMBER READOUT DISPLAY-Green	
RL2	EP8X90	CONNECTOR-3 Pos.	
RL3	EP8X71	CONNECTOR-6 Pos.	
RL7	EP8X93	CONNECTOR-5 Pos.	
RL9	EP8X90	CONNECTOR-3 Pos.	
RL10	EP8X94	CONNECTOR-4 Pos.	
RL244	EP8X91	CONNECTOR-4 Pos.	
RL250	EP8X43	CONNECTOR-2 Pins	

LMP1A/MP1A-112 TUNER CONTROL MODULE PLUG LOCATIONS



LMP1A/MP1A-112 TUNER CONTROL MODULE PLUG LOCATIONS

TUNER CONTROL MODULES LMP112 (EP93X470), AND LMP1A/MP1A-112 (EP93X538)

INTEGRATED CIRCUITS				
REF. NO.	PART NO.	DESCRIPTION		
IC100	EP84X130	3 TERMINAL VOL. REG. 9V	Q607	EP15X88 NPN, Silicon
IC500	EP84X243	PLL/PRESCALE (LMP1A/MP1A)	Q608	EP15X88 NPN, Silicon
IC500	EP84X220	PLL/Prescale (LMP112)	Q609	EP15X88 NPN, Silicon
IC600	EP84X222	CUSTOM Interface	Q610	EP15X88 NPN, Silicon
IC601	EP84X244	LMP 1A 112 Control (Microprocessor)	Q611	EP15X88 PNP, Silicon
IC601	EP84X235	LMP112 Control (Microprocessor)	Q612	EP15X48 PNP, Silicon
IC800	EP84X224	EAROM	Q614	EP15X87 NPN, Silicon
			Q615	EP15X48 PNP, Silicon
			Q800	EP15X87 NPN, Silicon
			Q801	EP15X48 PNP, Silicon
TRANSISTORS				
REF. NO.	PART NO.	DESCRIPTION		
Q101	EP15X37	NPN, Silicon	Y103	EP57X4 Rectifier
Q202	EP15X48	PNP, Silicon	Y105	EP16X155 Zener
Q502	EP15X109	NPN, Silicon	Y106	ES16X27 Silicon
Q503	EP15X87	NPN, Silicon	Y107	EP16X156 Zener, 27V
Q504	EP15X87	NPN, Silicon	Y108	EP16X152 Zener, 5.1V
Q601	EP15X57	PNP, Silicon	Y109	EP16X32 Zener, 30V
Q602	EP15X57	PNP, Silicon	Y110	EP57X4 Rectifier
Q603	EP15X87	NPN, Silicon	Y111	EP57X4 Rectifier
Q604	EP15X48	PNP, Silicon	Y112	EP57X4 Rectifier
Q605	EP15X48	PNP, Silicon	Y202	EP16X12 Zener 7.5V 1W
Q606	EP15X48	PNP, Silicon	Y500	ES16X27 Silicon
			REF. NO.	PART NO.
			Y501	ES16X
			Y502	ES16X
			Y503	ES16X
			Y504	ES16X
			Y505	ES16X
			Y506	ES16X
			Y507	ES16X
			Y508	ES16X
			Y509	ES16X
			Y510	ES16X
			Y511	ES16X
			Y512	ES16X
			Y513	ES16X
			Y514	ES16X
			Y515	ES16X
			Y516	ES16X
			Y517	ES16X
			Y518	ES16X
			Y519	ES16X
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			Y543	ES16X
			Y544	ES16X
			Y545	ES16X
			Y546	ES16X
			Y547	ES16X
			Y548	ES16X
			Y549	ES16X
			Y550	ES16X

NOTE: THE TUNER CONTROL MODULE USED IN THIS RECEIVER MAY BE EITHER A LMP1A/MP1A-112 TUNER NUMBER EP93X538 OR A LMP112 TYPE PART NUMBER EP93X470. ALL OTHER TUNING SYSTEM COMPONENTS ARE THE SAME. SCHEMATIC DIAGRAMS SHOWN ON THE OPPOSITE SIDE ARE FOR BOTH SYSTEMS INDICATING THE PLL CIRCUITRY (IC500) WHICH IS DIFFERENT FOR EACH TUNER CONTROL MODULE.

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PART LIST INDICATES THAT THE PART IS A SAFETY CRITICAL PART. IT IS PARTICULARLY RECOMMENDED THAT THE SHOWN PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAMS. REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY BE A FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

TUNING SYSTEM TROUBLESHOOTING INFORMATION

Troubleshooting Order

Order of probability after checking power supply, wires, cable switch, Remote Transmitter and Remote Receiver, check

1. Bandswitch transistors

2. Microprocessor (IC601)

3. Keyboard

4. I/O Chip

5. (EARM)

6. (PLL CHIP)

Symptoms

1. Remote control (Keyboard works OK).

2. LMP/MP Keyboard follows favorite/selected action of transmitter (button keybd)

3. Check Transmitter

4. Check Raster (LED Readout Display OK)

5. Check U/V Tuner

6. Why Raster (UHF or VHF only, VHF Hi/Low or only)

7. Check Bandswitch Transistors

8. Channel, No Keyboard or Remote operation

9. Relay forced ON (LMP/MP)

10. Check Microprocessor (IC601)

11. Last Channel or Favorite Channel Memory

12. Tuning power failure.

13. Check IC800

14. Readout Display OK, but Channels Off

15. Frequency

16. Check Bandswitch voltage, if OK, check IC500

17. Chip

TROUBLESHOOTING HINTS

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microprocessor

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor, (IC600, I/O) or the LED display unit

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the tuner, Video IF, Standby Supply, Microprocessor or the PLL, IC500 and associated circuitry.

Check the IF per Main Chassis troubleshooting chart. IF OK, PROCEED TO ELECTRONIC TUNING TROUBLESHOOTING INFO. FOR POSSIBLE SOLUTION TO THE PROBLEM

U/V TUNER CHECK: (READOUT DISPLAY OK, BUT NO PICTURE)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels. CH 1=28V, 6=20V, 13=19V, 33=6.5V and 82=26V. The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

LMP1A/MP1A-112 ELECTRONIC TUNING SYSTEM REPLACEMENT PARTS LIST

LMP112 TUNING SYSTEM

RESISTOR		
REF. NO.	PART NO.	DESCRIPTION
★ R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT		
REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS & TRANSFORMER		
REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uH, 10%
★ PT01	EP88X43	TRANSFORMER-Power

MISCELLANEOUS		
REF. NO.	PART NO.	DESCRIPTION
SEE MODEL PAGE	SEE MODEL PAGE	CHANNEL READOUT DISPLAY-Green
SEE MODEL PAGE	SEE MODEL PAGE	KEYBOARD-On/Off, Vol., Channel Select
EP93X470		LMP112 TUNER CONTROL BOARD
EP93X475		REMOTE CONTROL RECEIVER
EP62X164		REMOTE CONTROL TRANSMITTER ASM.
★ EP41X130		RELAY
★ EP93X394		RELAY CIRCUIT BOARD-Bare
★ EP93X415		UHF/VHF TUNER

LMP1A/MP1A-112 TUNING SYSTEM

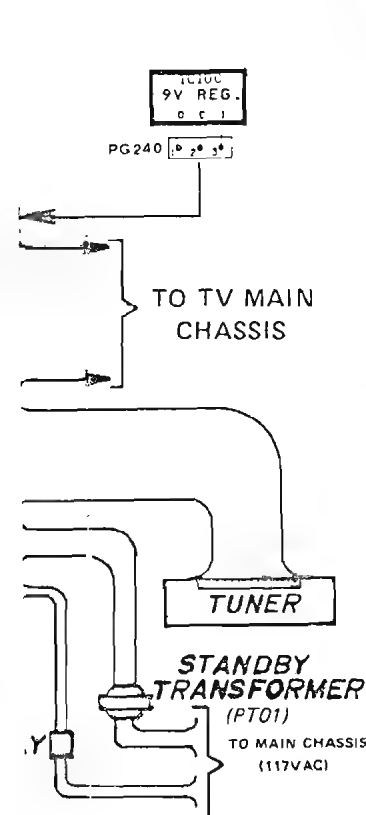
RESISTOR		
REF. NO.	PART NO.	DESCRIPTION
★ R29	EP14X326	VARISTOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT		
REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

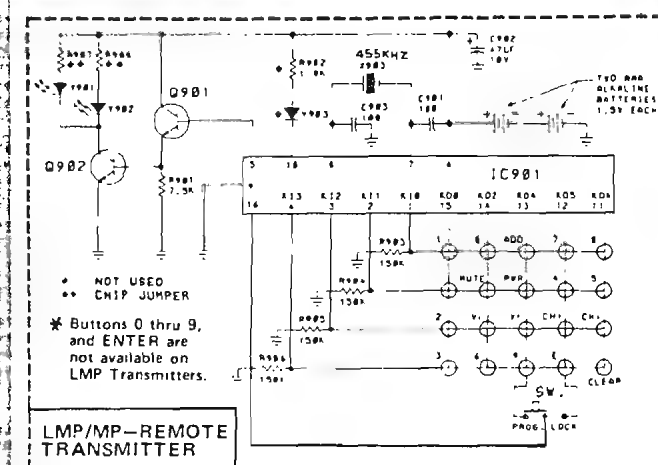
COILS & TRANSFORMER		
REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uH, 10%
★ PT01	★ EP41X132	RELAY
	EP88X43	TRANSFORMER-Power

MISCELLANEOUS		
REF. NO.	PART NO.	DESCRIPTION
EP8X125		CABLE-Coaxial, 36" W/Phono Plugs
SEE MODEL PAGE	SEE MODEL PAGE	CHANNEL NUMBER READOUT DISPLAY-Green
RL2	EP8X90	CONNECTOR-3 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL7	EP8X93	CONNECTOR-5 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
RL10	EP8X94	CONNECTOR-4 Pos.
RL244	EP8X91	CONNECTOR-4 Pos.
RL250	EP8X43	CONNECTOR-2 Pins

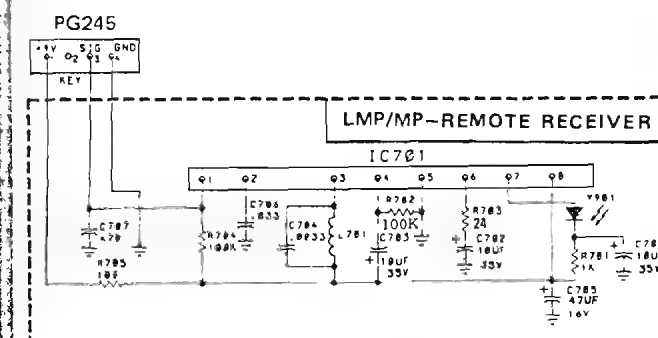
TUNER PLUG LOCATIONS



TUNER PLUG LOCATIONS



SEE OTHER SIDE FOR SCHEMATICS OF TCM.



TUNER CONTROL MODULES LMP112 (EP93X470), AND LMP1A/MP1A-112 (EP93X538)

INTEGRATED CIRCUITS		
REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL VOL. REG. 9V
IC500	EP84X243	PLL/PRESCALE (LMP1A/MP1A)
IC500	EP84X220	PLL/Prescale (LMP112)
IC600	EP84X222	CUSTOM Interface
IC601	EP84X244	LMP 1A 112 Control (Microprocessor)
IC601	EP84X235	LMP112 Control (Microprocessor)
IC800	EP84X224	EARM

TRANSISTORS		
REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	NPN, Silicon
Q202	EP15X48	PNP, Silicon
Q502	EP15X109	NPN, Silicon
Q503	EP15X87	NPN, Silicon
Q504	EP15X87	NPN, Silicon
Q601	EP15X57	PNP, Silicon
Q602	EP15X57	PNP, Silicon
Q603	EP15X87	NPN, Silicon
Q604	EP15X48	PNP, Silicon
Q605	EP15X48	PNP, Silicon
Q606	EP15X48	PNP, Silicon

DIODES		
REF. NO.	PART NO.	DESCRIPTION
Q607	EP15X88	NPN, Silicon
Q608	EP15X88	NPN, Silicon
Q609	EP15X88	NPN, Silicon
Q610	EP15X88	NPN, Silicon
Q611	EP15X48	PNP, Silicon
Q612	EP15X48	PNP, Silicon
Q614	EP15X87	NPN, Silicon
Q615	EP15X48	PNP, Silicon
Q800	EP15X87	NPN, Silicon
Q801	EP15X48	PNP, Silicon

COILS		
REF. NO.	PART NO.	DESCRIPTION
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

MISCELLANEOUS		
REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15uH, 10%
L501	EP36X136	CHOKE-15uH, 10%
L502	EP36X136	CHOKE-15uH, 10%
L500	EP41X68	CRYSTAL-Qz. Filter

MISCELLANEOUS	
PART NO.	DESCRIPTION
EP34X41	SOCKET-IC100

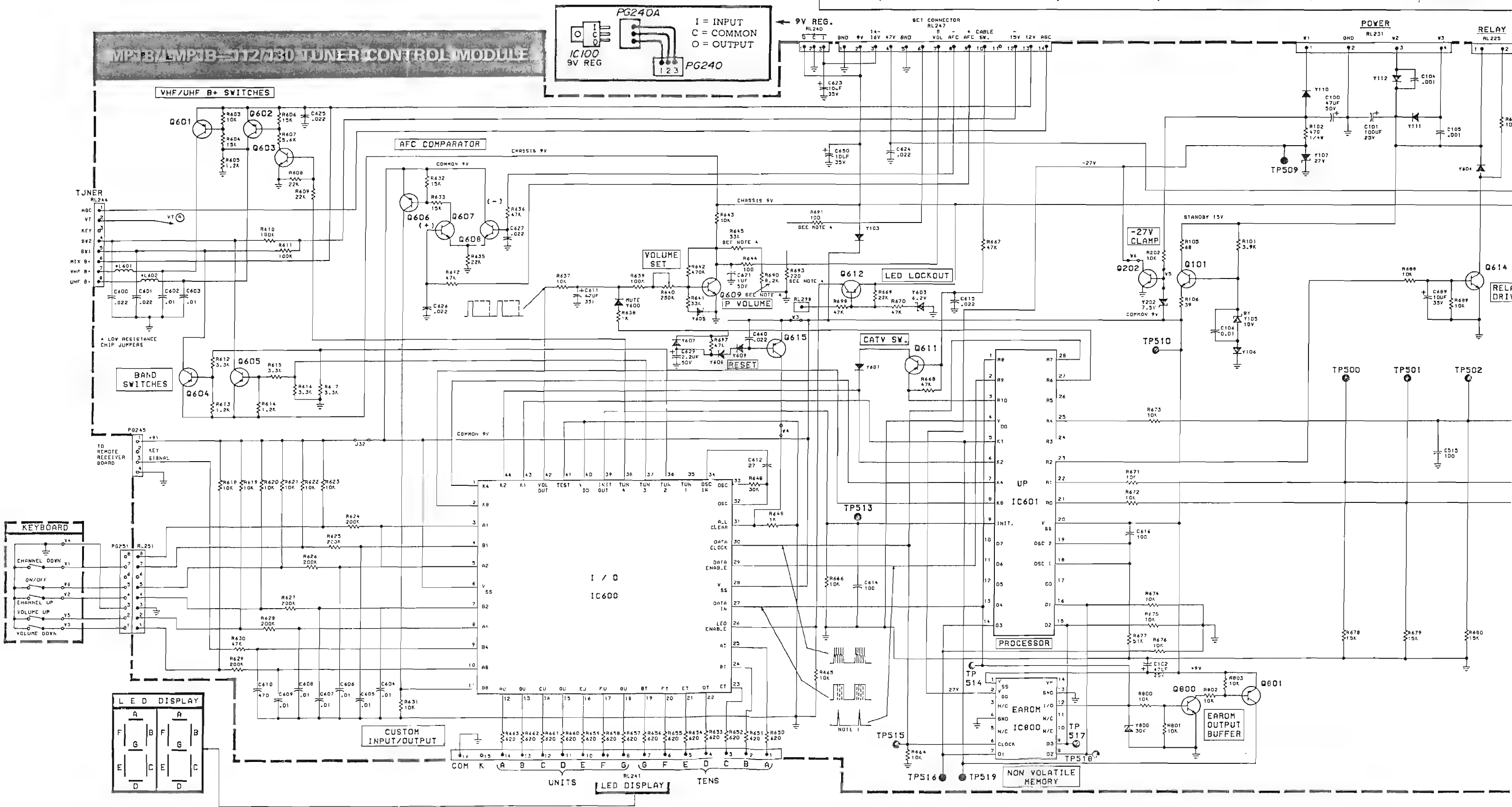
NOTE: THE TUNER CONTROL MODULE USED IN THIS RECEIVER MAY BE EITHER A LMP1A/MP1A-112 TYPE PART NUMBER EP93X538 OR A LMP112 TYPE PART NUMBER EP93X470. ALL OTHER TUNING SYSTEM COMPONENTS ARE THE SAME. SCHEMATIC DIAGRAMS SHOWN ON THE OPPOSITE SIDE ARE FOR BOTH SYSTEMS INDICATING ONLY THE PLL CIRCUITRY (IC500) WHICH IS DIFFERENT FOR EACH TUNER CONTROL MODULE.

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

MP1B/LMP1B-112/130 ELECTRONIC TUNING SYSTEM

IMPORTANT SAFETY NOTICE

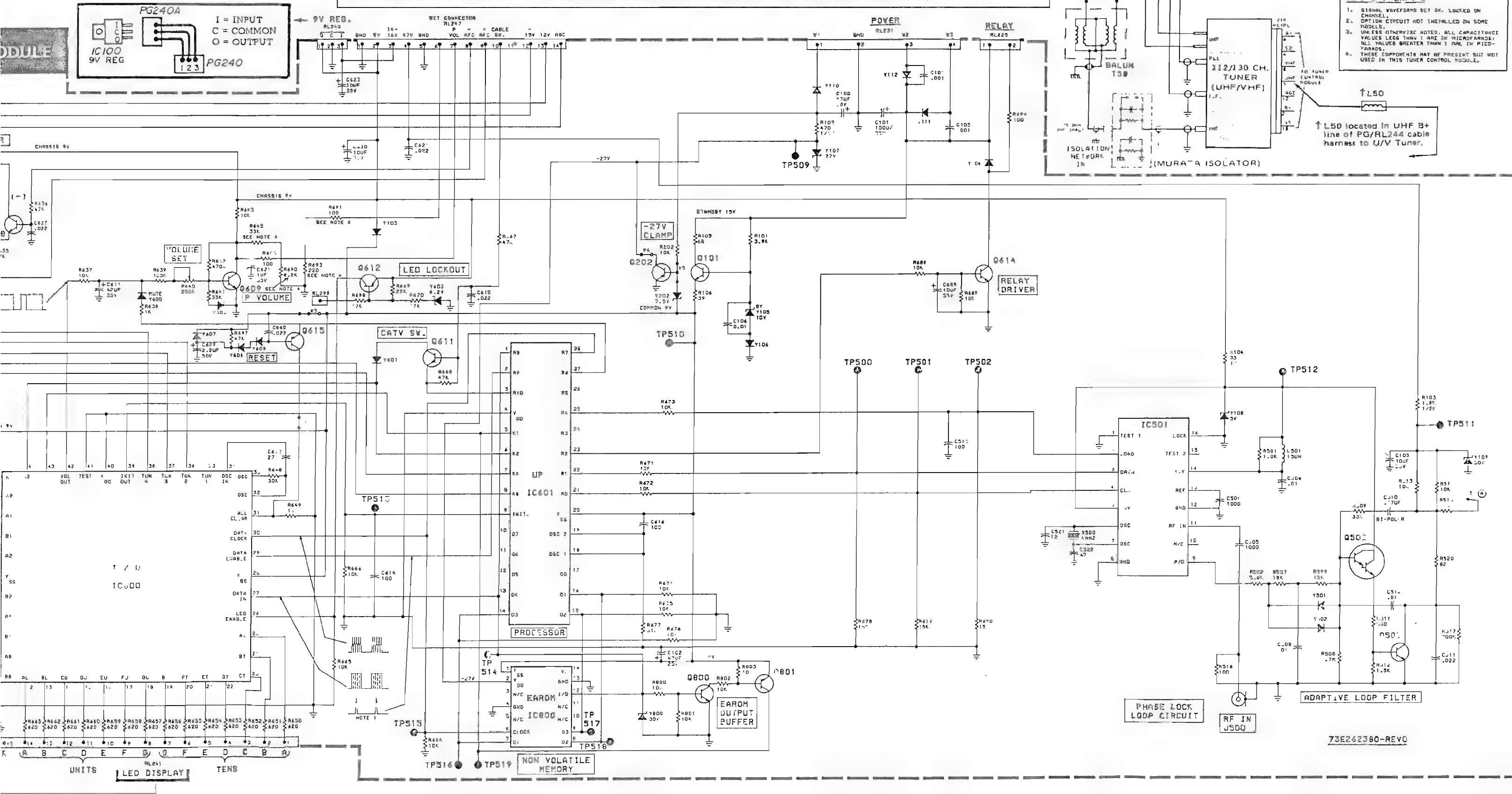
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UNING SYSTEM

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

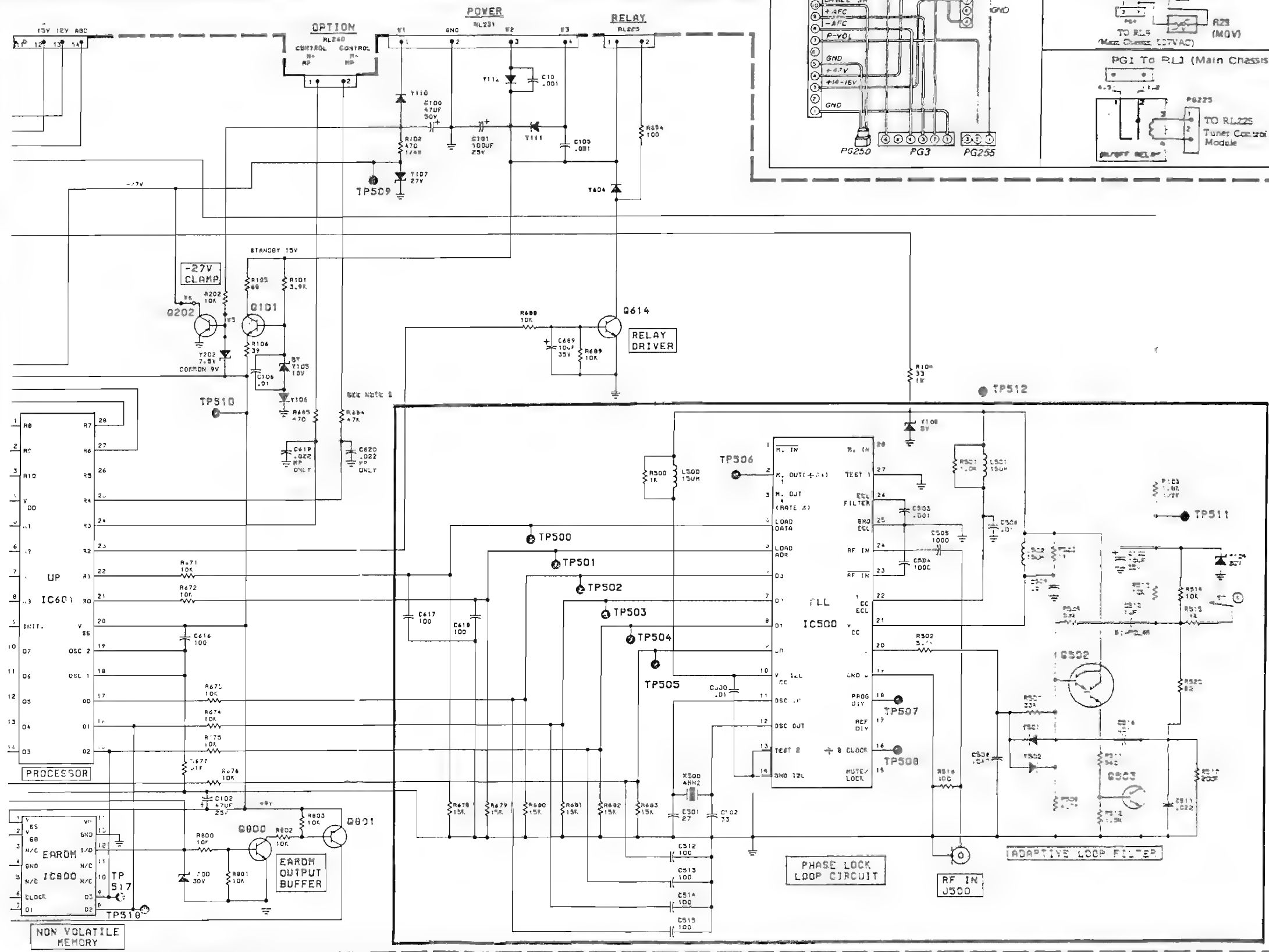
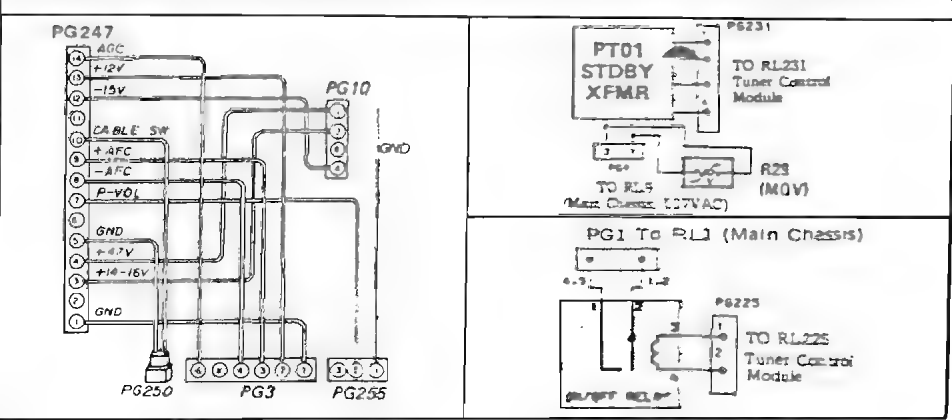


- NOTES
1. SIGNAL WAVEFORMS SET OR LOCKED ON CHANNEL.
 2. OPTION CIRCUIT NOT INSTALLED ON SOME MODELS.
 3. UNLESS OTHERWISE NOTED, ALL CAPACITANCE VALUES LESS THAN 1 ARE IN MICROFARADS; ALL VALUES GREATER THAN 1 ARE IN PICO-FARADS.
 4. THESE COMPONENTS MAY BE PRESENT BUT NOT USED IN THIS TUNER CONTROL MODULE.

PARTIAL SCHEMATIC DIAGRAM OF MP1/LMP1-112/130 TUNER CONTROL MODULE (EP93X541). ONLY THE PLL CIRCUITRY (IC500) IS DIFFERENT FROM THAT OF THE MP1B/LMP1B-112/130 TUNER CONTROL MODULE (EP93X531). SEE NOTE ON OPPOSITE SIDE.

See opposite side for
BC Chassis Pwr. Sup.
Interface Board and
interface connections
to Tun. Control Mod.

PC CHASSIS INTERFACE CONNECTIONS TO TCM PLUS STDBY XFMR & ON/OFF RELAY



MP1B/LMP1B-112/130 REMOTE ELECTRONIC TUNING SYSTEM

MINI-MANUAL

SERVICE INFORMATION
FOR TECHNICIAN
USE ONLY

ACCESSIBLE FROM INSIDE
TV SET ONLY

73E261924-2

NOTICE TO TECHNICIAN:

THIS MINI-MANUAL IS CUSTOMER PROPERTY.
PLEASE RETURN TO SET WHEN SERVICING IS
COMPLETED.

112/130 CHANNEL ELECTRONIC TUNING SYSTEM TROUBLESHOOTING INFORMATION

TUNING SYS

General: To help troubleshoot the 112/130 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.

Preliminary

Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Power Supplies

1. Do not unplug, but do check all voltages at RL/PG247. Check +15V only if IC100 (9V Regulator) is included with tuner control module).
2. Check RL231, pin 1 for 30 to 38VAC (supply for B minus (-) 27V supply to IC800, (EARM)).
3. Check RL225, pin 1 for ON/OFF Relay B+ 13 to 17VDC.
4. Check RL245, pin 1 for Remote Receiver B+ 7.5 to 8.5 VDC.

NOTE

RL225 Pin 1, +15 V must be correct before the set will switch on. If supplies are OK, the ON/OFF relay may be forced on by grounding pin 2 of RL/PG225 through a 100 ohm, 1/2 watt resistor. Replace Q614 if necessary, otherwise inspect TV power supplies.

Troubleshooting Order

In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check:

1. Tuner/Bandswitch transistors (Q601-Q605)
2. IC601 (Microprocessor)
3. Keyboard
4. IC500 (I/O)
5. IC800 (EARM)
6. IC500 (PLL)

Categorized Symptoms

- No Remote Control (Keyboard OK). Note: Scan Keyboards follow favorite/sequential action of transmitter. Check Transmitter
- Dark Raster (LED Display OK) Check U/V Tuner

- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only) Check Bandswitch Transistors (Q601-Q605)

- No Channel, No Keyboard or Remote operation with Relay forced ON (Remote Systems only) Check IC601 (Microprocessor)

- No Last Channel or Favorite Channel Memory during power failure. Check IC800 (EARM)

- LED Display OK (Channels Off-Frequency) Check Bandswitch voltages, if OK, check IC 500 (PLL Chip).

- Picture OK (Channel LED Display Incorrect) Check IC600 (I/O), IC601(uP) and LED Display

- No Picture (Channel LED Display OK) Check U/V Tuner, Video IF (Main Chassis), Standby Power Supply, IC601 (uP) IC500 (PLL) and associated circuitry.

- No Picture (Channel LED Display Incorrect) Check Keyboard, IC600 (I/O) and IC601 (uP)

- Before proceeding: Check the Main Chassis Video IF. If OK, proceed to U/V Tuner Check below.

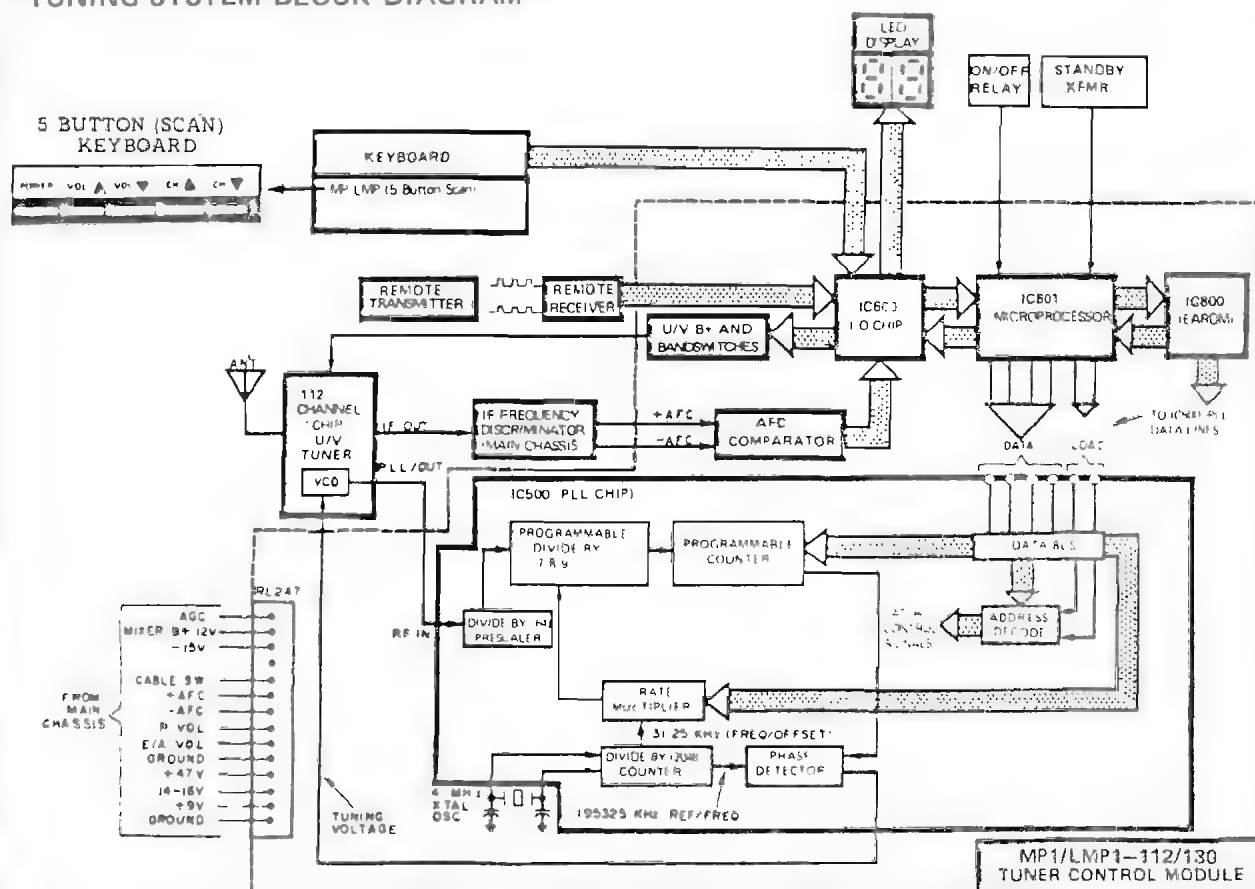
U/V TUNER CHECK: (No Picture, Channel LED Display OK)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels: CH. 1 (28V), 6 (20V), 13 (19V), 33 (6.5V) and 82 (26V). The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28VDC at RL244, Pin 2) and connect end of a potentiometer (10K-15K) to the tuning voltage terminal (yellow wire). Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective (replace U/V Tuner).

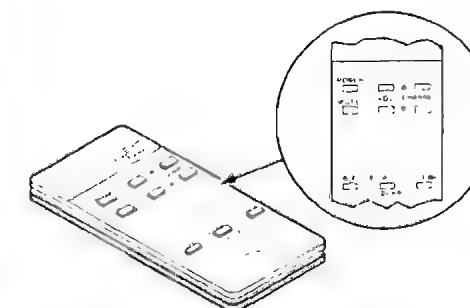
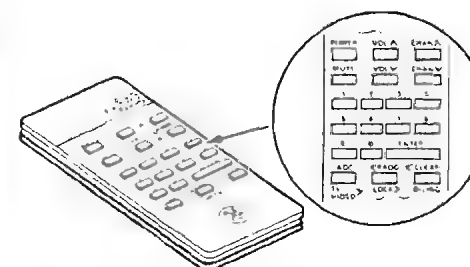
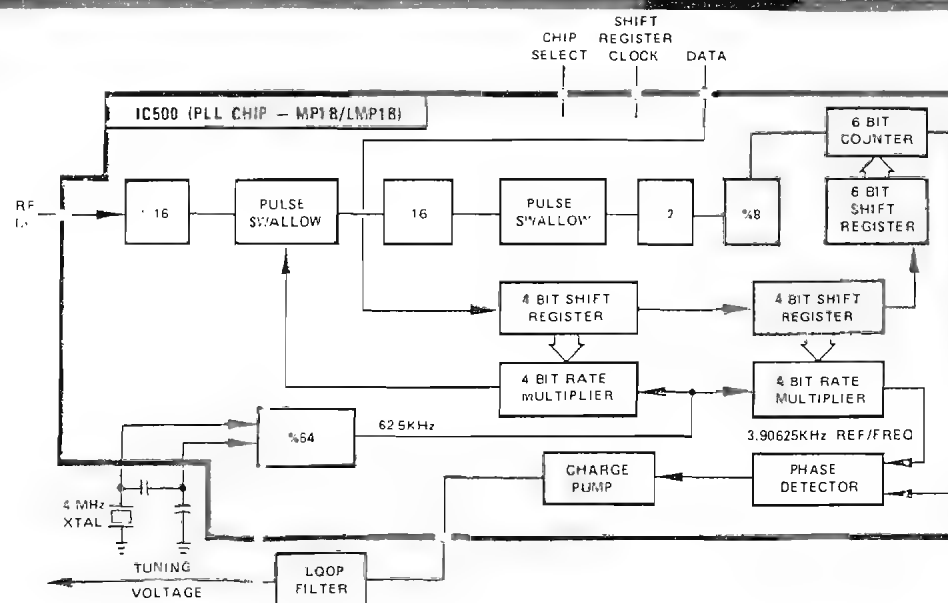
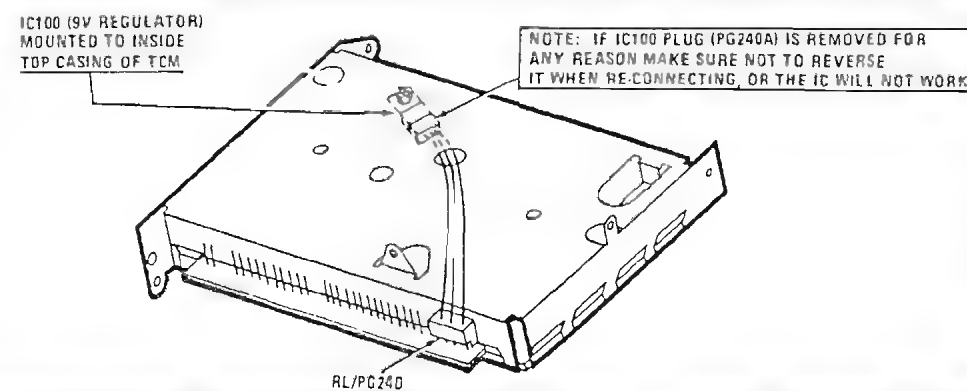
If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

NOTE: THE TUNER CONTROL MODULE USED IN THIS RECEIVER MAY BE EITHER A MP1B/LMP1B-112/130 TYPE PART NUMBER EP93X531 OR MP1/LMP1-112/130 TYPE PART NUMBER EP93X541. ALL OTHER TUNING SYSTEM COMPONENTS ARE THE SAME. SCHEMATIC DIAGRAMS SHOWN ON THE OPPOSITE SIDE ARE FOR BOTH SYSTEMS, INDICATING ONLY THE PLL CIRCUITRY (IC500) WHICH IS DIFFERENT FOR EACH TUNER CONTROL MODULE.

TUNING SYSTEM BLOCK DIAGRAM



TUNER CONTROL MODULE WITH IC100 (9V REGULATOR)

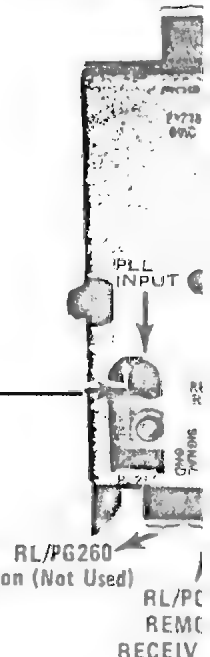


VHF ANTENNA



TO PWR. SUPPLY I
(Main Chas)

TO IC100 (9V Reg)
RL/PG



POWER
5 BUTTON
SCAN KEYBOARD

General: To help troubleshoot the 112/130 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.

Preliminary

Check for shorted or loose wires and cables. They are frequently the cause of trouble.

Power Supplies

1. Do not unplug, but do check all voltages at RL/PG247. Check +15V only if IC100 (9V Regulator) is included with tuner control module.
2. Check RL231, pin 1 for 30 to 38VAC (supply for B minus (-) 27V supply to IC800, (EAROM)).
3. Check RL225, pin 1 for ON/OFF Relay B + 13 to 17VDC.
4. Check RL245, pin 1 for Remote Receiver B + 7.5 to 8.5 VDC.

NOTE

RL225 Pin 1, +15 V must be correct before the set will switch on. If supplies are OK, the ON/OFF relay may be forced on by grounding pin 2 of RL/PG225 through a 100 ohm, 1/2 watt resistor. Replace Q614 if necessary, otherwise inspect TV power supplies.

Troubleshooting Order

In order of probability after checking power supplies, wires, cable switch, Remote Transmitter and Remote Receiver, check:

1. Tuner/Bandswitch transistors (Q601-Q605)
2. IC601 (Microprocessor)
3. Keyboard
4. IC600 (I/O)
5. IC800 (EAROM)
6. IC500 (PLL)

Categorized Symptoms

- No Remote Control (Keyboard OK). Note: Scan Keyboards follow favorite/sequential action of transmitter. Check Transmitter

Dark Raster (LED Display OK)
Check U/V Tuner

- Snowy Raster (UHF or VHF only, VHF Hi/Lo or Cable only)
Check Bandswitch Transistors (Q601-Q605)

- No Channel, No Keyboard or Remote operation with Relay forced ON (Remote Systems only)
Check IC601 (Microprocessor)

- No Last Channel or Favorite Channel Memory during power failure.
Check IC800 (EAROM)

- LED Display OK (Channels Off-Frequency)
Check Bandswitch voltages, if OK, check IC 500 (PLL Chip).

- Picture OK (Channel LED Display Incorrect)
Check IC600 (I/O), IC601(uP) and LED Display

- No Picture (Channel LED Display OK)
Check U/V Tuner, Video IF (Main Chassis), Standby Power Supply, IC601 (uP) IC500 (PLL) and associated circuitry.

- No Picture (Channel LED Display Incorrect)
Check Keyboard, IC600 (I/O) and IC601 (uP)

Before proceeding:
Check the Main Chassis Video IF. If OK, proceed to U/V Tuner Check below.

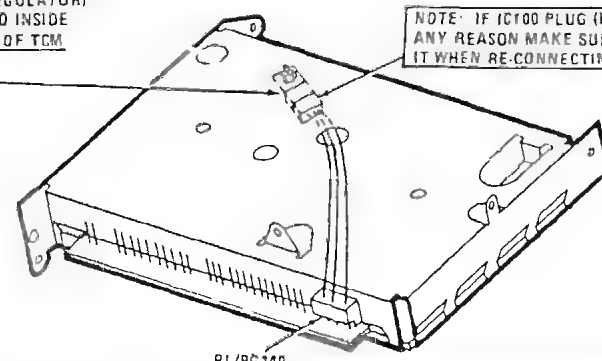
U/V TUNER CHECK: (No Picture, Channel LED Display OK)

Measure tuning voltage at RL244, Pin 2, while entering the following Channels; CH. 1 (28V), 6 (20V), 13 (19V), 33 (6.5V) and 82 (26V). The presence of these voltages indicate that the PLL, IC500 output is working. Enter in Channel 1 (28VDC at RL244, Pin 2) and connect end of a potentiometer (10K-15K) to the tuning voltage terminal (yellow wire). Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective (replace U/V Tuner).

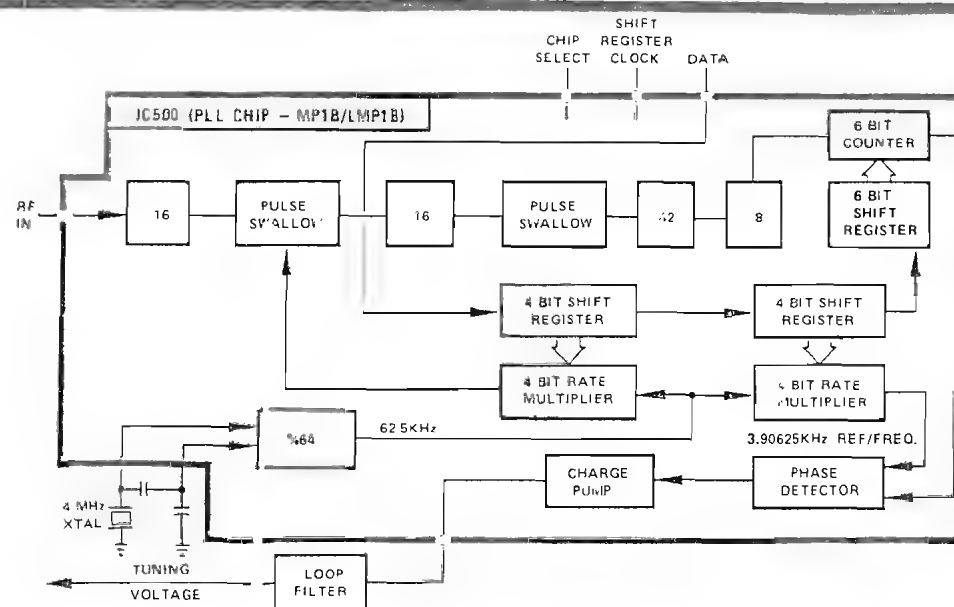
If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

TUNER CONTROL MODULE WITH IC100 (9V REGULATOR)

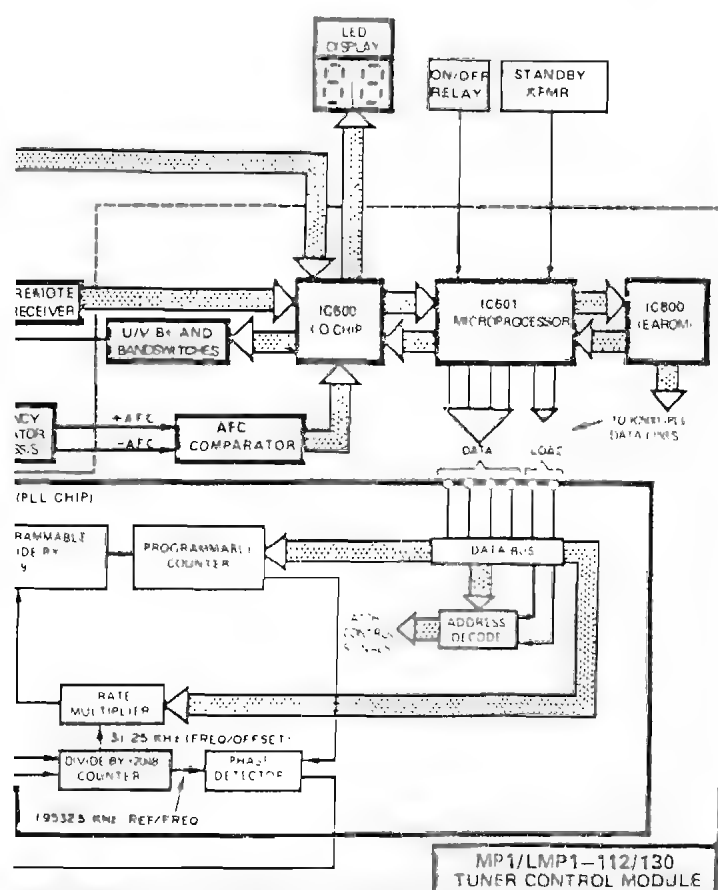
IC100 (9V REGULATOR) MOUNTED TO INSIDE TOP CASING OF TCM



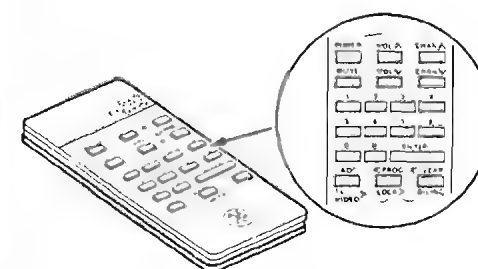
NOTE: IF IC100 PLUG (PG240A) IS REMOVED FOR ANY REASON MAKE SURE NOT TO REVERSE IT WHEN RE-CONNECTING, OR THE IC WILL NOT WORK.



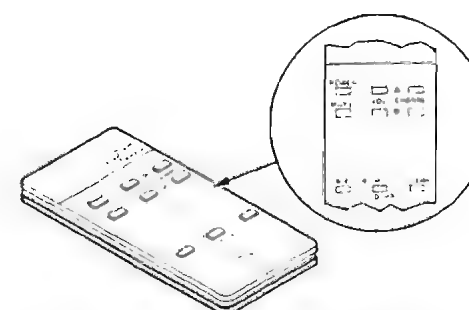
THIS RECEIVER MAY BE EITHER A MP1B/LMP1B-112/130 TYPE PART NUMBER EP93X541. ALL OTHER TUNING SYSTEM DIAGRAMS SHOWN ON THE OPPOSITE SIDE ARE FOR BOTH SYSTEMS WHICH IS DIFFERENT FOR EACH TUNER CONTROL MODULE.



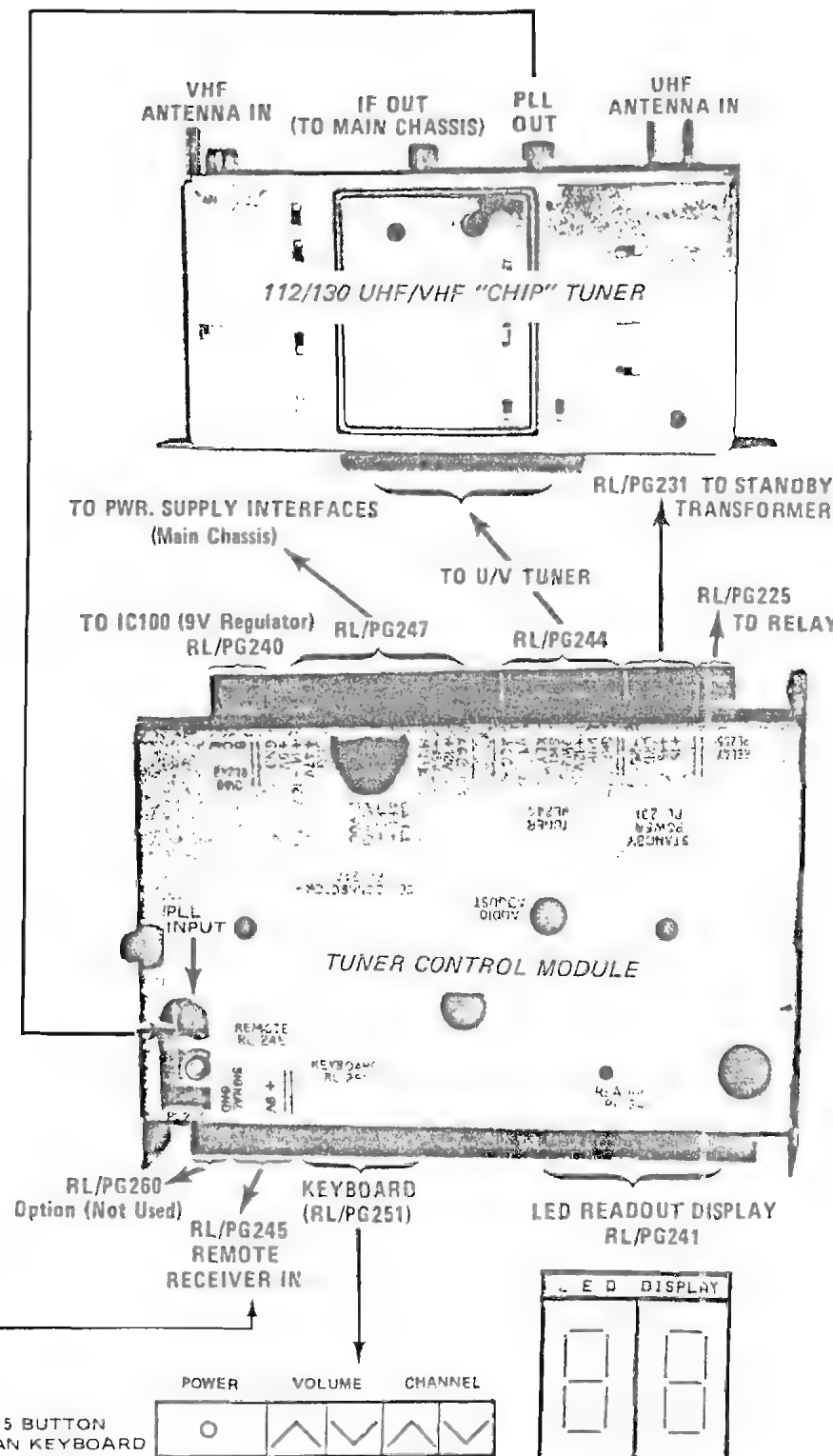
112/130 REMOTE RECEIVER



"DUAL MODE" REMOTE TRANSMITTER



"SCAN" REMOTE TRANSMITTER



BC CHASSIS POWER SUPPLY INTERFACE SCHEMATIC AND PARTS LIST

PC CHASSIS

MP1B/LMP1B-112/130 AND MP1/LMP1-112/130 TUNING SYSTEMS (COMBINED PARTS LIST)

MP1B/LMP1B-112/130 TUNING SYSTEM

RESISTOR

REF. NO.	PART NO.	DESCRIPTION
* R29	EP14X326	VARIATOR-"MOV", Metal Oxide

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COILS TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%
* PT01	EP41X132	RELAY
	EP88X43	TRANSFORMER-Power

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X175	CABLE-Coaxial, 36" W/Phono Plugs
SEE MODEL PAGE		CHANNEL NUMBER READOUT DISPLAY-Green
RL2	EP8.90	CONNECTOR-3 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL7	EP8X03	CONNECTOR-5 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
RL10	EP8X94	CONNECTOR-4 Pos.
RL244	EP8X91	CONNECTOR-4 Pos.
RL250	EP8X43	CONNECTOR-2 Pins
SEE MODEL PAGE		KEYBOARD-On/Off, Vol., Channel Select

* EP93X544	RELAY CIRCUIT BOARD-Bar
EP93X531	MP1B/LMP1B-112/130 TUNER CONTROL BOARD
EP93X480	REMOTE CONTROL RECEIVER (19")
EP93X482	REMOTE CONTROL RECEIVER (25")
SEE MODEL PAGE	REMOTE CONTROL TRANSMITTER ASM.
* EP93X539	UHF/VHF TUNER (MP1B/LMP1B-112)
* EP93X502	UHF/VHF TUNER (MP1B/LMP1B-130)

MP1/LMP1-112/130 TUNING SYSTEM

INTEGRATED CIRCUIT

REF. NO.	PART NO.	DESCRIPTION
IC100	EW84X230	3 Terminal 9V Regulator

COIL

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKE-220uh, 10%

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP8X175	CABLE-Coaxial, From Tuner To Tuner Control Board
RL244B	EP8X91	CONNECTOR-2 Pos.
	EP93X541	MP1/LMP1-112/130 TUNER CONTROL BOARD
	EP93X482	REMOTE CONTROL RECEIVER
SEE MODEL PAGE		REMOTE CONTROL TRANSMITTER ASM.
* EP93X539		UHF/VHF TUNER (MP1/LMP1-112)
* EP93X502		UHF/VHF TUNER (MP1/LMP1-130)

TUNER CONTROL MODULES MP1B/LMP1B-112/130 (EP93X531), AND MP1/LMP1-112/130 (EP93X541)

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
IC100	EP84X230	3 TERMINAL 9V REG.
IC500	EP84X243	PLL/PRESALE (MP1B/LMP1B)
IC500	EP84X220	PLL/PRESALE (MP1/LMP1)
IC600	EP84X222	CUSTOM INTERFACE
IC601	EP84X244	MP1B/LMP1B CONTROL MICROPROCESSOR
IC601	EP84X234	MP1/LMP1 CONTROL MICROPROCESSOR
IC800	EP84X224	EARMON

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q101	EP15X87	Standby Power, NPN, Silicon
Q202	EP15X48	-27V Clamp, PNP, Silicon
Q502	EP15X109	Loop Filter Amp., NPN, Silicon
Q503	EP15X87	Loop Filter Amp., NPN, Silicon
Q601	EP15X57	B+ Switch, PNP, Silicon
Q602	EP15X57	B+ Switch, PNP, Silicon
Q603	EP15X87	B+ Switch, NPN, Silicon
Q604	EP15X48	Band Switch, PNP, Silicon
Q605	EP15X48	Band Switch, PNP, Silicon
Q606	EP15X48	AFC Comparator, PNP, Silicon
Q607	EP15X88	AFC Comparator, NPN, Silicon
Q608	EP15X88	AFC Comparator, NPN, Silicon
Q609	EP15X88	P Volume, NPN, Silicon
Q610	EP15X88	E/A Volume, NPN, Silicon
Q611	EP15X48	CATV Switch, PNP, Silicon
Q612	EP15X48	LED Lockout, PNP, Silicon
Q614	EP15X87	Relay Driver, NPN, Silicon
Q615	EP15X48	Reset, PNP, Silicon
Q800	EP15X87	Earmon Output Buffer, NPN, Silicon
Q801	EP15X48	Earmon Output Buffer, PNP, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y103	EP57X4	Rectifier
Y105	EP16X155	Zener, 10V
Y106	ES16X27	Silicon
Y107	EP16X156	Zener, 27V
Y108	EP16X152	Zener, 5V
Y109	EP16X32	Zener, 30V
Y110	EP57X4	Rectifier
Y111	EP57X4	Rectifier
Y112	EP57X4	Rectifier
Y202	EP16X12	Zener, 7.5V, 1W
Y500	ES16X27	Silicon
Y501	ES16X27	Silicon
Y502	ES16X27	Silicon
Y600	ES16X27	Silicon
Y601	ES16X27	Silicon
Y602	EP16X153	Zener, 6.2V
Y604	ES16X27	Silicon
Y605	ES16X27	Silicon
Y607	ES16X27	Silicon
Y608	ES16X27	Silicon
Y609	ES16X27	Silicon
Y800	EP16X32	Zener, 30V

COILS

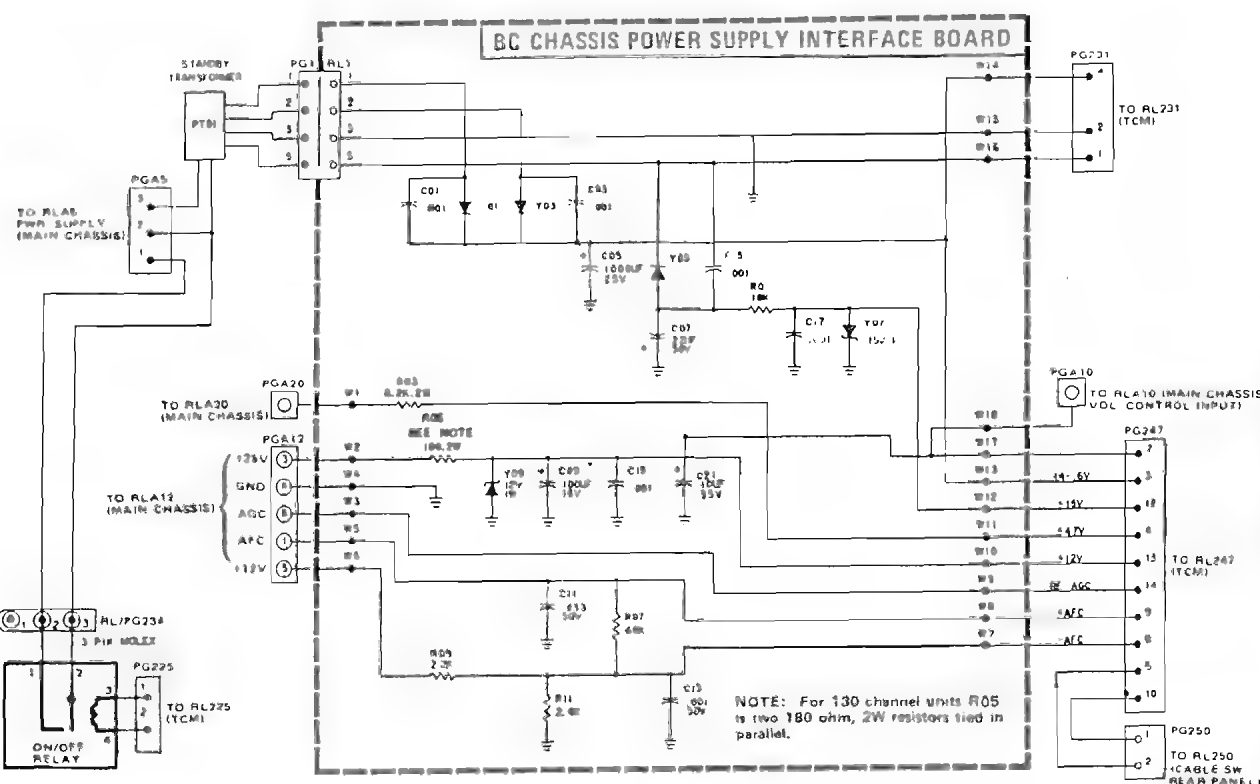
REF. NO.	PART NO.	DESCRIPTION
L500	EP36X136	CHOKE-15uh, 10%
L501	EP36X136	CHOKE-15uh, 10%
L502	EP36X136	CHOKE-15uh, 10%
X500	EP41X65	CRYSTAL-Qtz. Filter

NOTE: THE TUNER CONTROL MODULE USED IN THIS RECEIVER MAY BE EITHER A MP1B/LMP1B-112/130 TYPE PART NUMBER EP93X531 OR MP1/LMP1-112/130 TYPE PART NUMBER EP93X541. ALL OTHER TUNING SYSTEM COMPONENTS ARE THE SAME. SCHEMATIC DIAGRAMS SHOWN ON THE OPPOSITE SIDE ARE FOR BOTH SYSTEMS INDICATING ONLY THE PLL CIRCUITRY (IC500) WHICH IS DIFFERENT FOR EACH TUNER CONTROL MODULE.

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

73E261924-2



MAIN CHASSIS PARTS LIST

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHAD-
ED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATAL-
OG PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM.
USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE A
FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

CHASSIS TYPE: PC-A

PRINTED CIRCUIT BOARD ASSEMBLIES

REF. NO.	PART NO.	DESCRIPTION
M100-300		
500-700		
900		Main Circuit Board
M400	EP93X377	RGB Board
M1900	EP93X348	Horiz. Heat Sink Board
MM	EP93X382	Color Averaging
MV	EP93X381	VIR Board

CHASSIS

PARTS NOT LISTED ON MAIN CIRCUIT BOARD

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C30	EP31X45	47uf, 10%, 25V, Elect
C62	ES25X22	.01uf, 20%, 50V, Polyester
C90	EP31X149	10uf, 10%, 35V, Elect.
C95	EP31X149	10uf, 10%, 35V, Elect.
C232	EP31X147	47uf, +50-10%, 180V, Elect

RESISTORS

R10	EP14X154	22 ohm, 5%, 1W, Carbon
R10	EP14X54	18 ohm, 5%, 1W, Carbon
R128	EP14X48	10 ohm, 5%, 2W, Metal Oxide
R129	ES14X58	470 ohm, 5%, 1/4W, Carbon
R130	EP14X105	100K ohm, 5%, 1/4W, Carbon
R232	EP14X319	8.6K ohm, 5%, 3W, Flame Proof
R233	EP14X261	3K ohm, 5%, 2W, Metal Oxide

POTENTIOMETER

R1903	EP49X160	Horiz. Centering
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TRANSISTORS

Q100	ES15X125	NPN, Silicon
Q1901	EP15X218	NPN, Silicon

DIODES

Y129	EP16X155	Zener
Y130	EP57X5	Rectifier, Silicon
Y232	EP57X4	Rectifier, Silicon

COILS AND TRANSFORMERS

L1901	EP36X445	COIL - Degaussing
	EP36X443	COIL - Width
	EP42X8	CONVERGENCE ASM.
	EP76X30	Yoke
* T701	EP77X56	TRANSFORMER - H.V.
* T1901	EP36X444	COIL - Pincushion Asm.
	EP2X545	CLIP - Chassis Mounting
	EP2X546	CLIP - CRT Ground Terminal

MISCELLANEOUS

EP90X40	75/300 ohm Adapter (Antenna)
EP2X544	BRACKET - Ckt. Bd. Support, Plastic
EP2X543	BRACKET - H.V.T. Brace, Plastic
EP2X542	BRACKET - Color & VIR Board
	Support, Plastic
EP8X97	CABLE - Coaxial, VHF to UHF
EP8X103	CABLE - ET91 to VHF & KMP to VHF
EP8X124	CABLE - ET91 to UHF & KMP to UHF
EP3X4	CLIP - Upper CRT Bkt.—Tuner
EP2X548	CLIP - Anode Retainer
EP8X93	CONNECTOR - 5 Pos.
EP8X71	CONNECTOR - 6 Pos.
EP8X66	CONNECTOR - 7 Pos.
EP8X68	CONNECTOR - 2 Pos.
EP8X90	CONNECTOR - 3 Pos.
EP8X90	CONNECTOR - 3 Pos. (ET91/KMP91)
EP8X94	CONNECTOR - 3 Pos. (Direct/LMP91)
EP8X30	CONNECTOR - 1 Pin
EP8X66	CONNECTOR - 7 Pos.
EP8X90	CONNECTOR - 5 Pos.
EP8X42	CONNECTOR - 4 Pins
EP8X43	CONNECTOR - 2 Pins
* EP66X19	CORD - AC Power, Polarized,
	Wired-In-Type
EP3X41	CUSHION - Yoke Wedge
EP92X101	FRAME - Front & Sides, For Main
	Board, Plastic
EP92X102	FRAME - Rear Support, For Main
	Board, Plastic
* F901	FUSE - 4 amp, 250V, Snap-In,
	Fast Acting
F903	FUSE - 1.25 amp, 250 V, Snap-In,
	Slow Blow
EP34X65	SOCKET - CRT
EP2X534	SPRING - Ground, CRT
EP2X535	STRAPS - Degaussing Coil Adjust
EP90X3	WIRE TIE

CH 1 V1

ANTENNA TERMINAL BRACKET

EP37X54

PART NO.	DESCRIPTION
ES3X29	CLIP - Antenna Terminal
EP2X540	CLIP - Power Cord Retainer
EP51X6	ISOLATION - Transformer, Coaxial Cable

ANTENNA TERMINAL BOARD ASM.

EP37X53

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
* C20	EP18X127	470pf, 20%, 125V, Cer. Disc.
* C21	EP18X127	470pf, 20%, 125V, Cer. Disc.
* C22	EP18X127	470pf, 20%, 125V, Cer. Disc.
* C23	EP18X127	470pf, 20%, 125V, Cer. Disc.

RESISTORS

* R20	EP14X241	1.8 meg ohm, 40%, 1/2W, Carbon
* R21	EP14X241	1.8 meg ohm, 40%, 1/2W, Carbon
* R22	EP14X241	1.8 meg ohm, 40%, 1/2W, Carbon
* R23	EP14X241	1.8 meg ohm, 40%, 1/2W, Carbon

MISCELLANEOUS

EP51X5	BALUN - 75 to 300 ohms
EP8X98	CABLE - Coaxial, From Antenna to IF
ES3X29	CLIP - Antenna Terminal
EP2X540	CLIP - Power Cord Holder, Plastic

MAIN CIRCUIT BOARD (PC)

CAPACITORS

C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C103	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C104	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C105	EP31X138	.47uf, 20%, 50V, Elect.
C106	EP31X159	470uf, +50-10%, 16V, Elect.
C107	EP18X187	27pf, 5%, 50V, Cer. Disc
C108	EP18X191	68pf, 5%, 50V, Cer. Disc
C109	EP18X159	120pf, 5%, NPO, Cer. Disc
C110	EP18X220	1000pf, 10%, 500V SHiK, Cer. Disc
C111	EP18X138	62pf, 5%, 50V, NPO, Cer. Disc
C112	EP18X180	820pf, 10%, 50V, SHiK, Cer. Disc
C113	EP22X32	.01uf, 10%, 50V, HiK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, Cer. Disc
C116	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C117	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C118	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C119	EP31X111	4.7uf, 20%, 35V, Elect.
C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
C121	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C124	EP18X186	22pf, 10%, 50V, NPO, Cer. Disc
C125	EP31X45	47uf, 20%, 10V, Elect.
C126	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C127	EP22X32	.01uf, 20%, 50V, Cer. Disc
C135	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C136	EP18X81	1000pf, 10%, 500V, Cer. Disc
C137	EP18X81	1000pf, 10%, 500V, Cer. Disc

C139	EP18X220	1000pf, 10%, 500V, Cer. Disc	C509	EP21
C142	EP18X259	1000pf, 20%, 500V, Cer. Disc	C512	EP21
C180	EP18X189	47pf, 5%, 50V, Cer. Disc	C513	EP31
C182	ES18X82	47pf, 5%, 50V, Cer. Disc	C514	EP18
C183	EP25X87	.047uf, 10%, 50V, Polyester	C515	EP21
C184	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc	C517	EP21
C185	EP31X149	10uf, 20%, 35V, Elect.	C521	EP21
C186	EP25X130	.022uf, 10%, 50V, Polyester	C523	EP21
C187	EP18X168	1000pf, 10%, 50V, SHiK, Cer. Disc	C601	EP21
C188	EP25X146	.033uf, 10%, 200V, Mylar	C603	EP31
C189	EP31X149	10uf, 20%, 35V, Elect.	C605	EP18
C190	EP31X149	10uf, 20%, 35V, Elect.	C607	EP31
C191	EP18X170	.015uf, 10%, 25V, Cer. Disc	C609	EP31
C192	EP18X168	1000pf, 10%, 500V SHiK, Cer. Disc	C611	EP25
C193	EP18X192	150pf, 5%, 50V, NPO, Cer. Disc	C613	EP18
C194	EP31X152	2.2uf, +50-20%, 250V, Elect.	C614	EW3
C195	EP18X182	5.6pf, 10%, 50V, Cer. Disc	C615	EP31
C196	EP31X153	22uf, +50-20%, 160V, Elect.	C617	EU22
C197	EP31X111	4.7uf, 20%, 35V, Elect.	C619	EP31
C198	EP31X149	10uf, 20%, 35V, Elect.	C621	EP31
C199	EP18X169	.01uf, 30%, 25V, Cer. Disc	C623	EP31
C200	EP18X213	1500pf, 10%, 50V, Cer. Disc	C701	EP25
C202	EP31X149	10uf, 10%, 35V, Elect.	C703	EP18
C204	EP18X189	.01uf, 30%, 25V, Cer. Disc	C705	EP25
C206	EP31X44	22uf, 20%, 25V, Elect.	C706	EP25
C208	EP18X167	.047uf, 20%, 50V, HiK, Cer. Disc	* C900	EP25
C210	EP18X159	120pf, 5%, NPO, Cer. Disc	C901	EP18
C212	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc	* C902	EP31
C216	EP31X149	10uf, 10%, 35V, Elect.	C903	EP18
C218	EP31X78	1uf, 20%, 50V, Elect.	* C904	EP31
C234	EP31X59	470uf, 10%, 25V, Elect.	C905	EP18
C236	EP18X169	.01uf, 30%, 25V, Elect.	* C906	EP31
C250	EP25X77	.1uf, 20%, 50V, Polyester	C907	EP18
C256	EP31X44	22uf, 20%, 25V, Elect.	C921	EU22
C300	EW31X116	33uf, +50-20%, 10%, Elect.	C923	ET22
C302	EP31X49	1uf, 10%, 16V, Elect.	C924	EP18
C306	EP18X122	82pf, 5%, 50V, Cer. Disc	C925	EP31
C308	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc	C927	ET22
C312	EP18X198	2200pf, 30%, 25V, NPO, Cer. Disc	C929	EP18
C314	EP18X202	220pf, 10%, 50V, NPO, Cer. Disc	C931	EP31
C316	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc	C933	EP25
C320	EP18X219	30pf, 5%, 50V, Cer. Disc	C935	ET22
C322	EP18X187	27pf, 5%, 50V, Cer. Disc	C937	EP18
C326	EP25X124	.033uf, 20%, 50V, Polyester	C939	EP31
C328	EP31X149	10uf, 20%, 35V, Elect.	C941	EP18
C330	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc	C943	EP31
C334	EP18X194	100pf, 5%, 50V, Cer. Disc	C945	EP18
C336	EP31X78	1uf, 20%, 50V, Elect.	C947	EP18
C350	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc	C953	EP25
C352	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc	C955	EP20
C354	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc	C957	EP18
C370	EP25X87	.047uf, 20%, 50V, Polyester	C959	EP18
C372	EP18X223	180pf, 10%, 50V, HiK, Cer. Disc	C961	EP31
C373	EP18X169	.01uf, 30%, 25V, NPO, Cer. Disc	C965	ET22
C390	EU22X76	1000pf, 20%, 500V, HiK, Cer. Disc	C967	EP31
C391	EP31X78	1uf, 20%, 50V, Elect.	C990	ET22
C392	EP31X149	10uf, 10%, 35V, Elect.	C991	EP31
C393	EU22X76	1000pf, 20%, 500V, HiK, Cer. Disc	C993	EP31
C394	EU22X76	1000pf, 20%, 500V, HiK, Cer. Disc		
C395	EP31X78	1uf, 20%, 50V, Elect.		
C501	EP31X45	47uf, 20%, 25V, Elect.	R101	EP14
C503	EP25X148	.0056uf, 5%, 100V, Polyester	R102	EP14
C505	EP31X49	1uf, 10%, 16V, Elect.	R103	ES14
C506	EP25X150	6800pf, 10%, 50V, Polyester	R104	ES14
C507	EP25X87	.047uf, 10%, 50V, Polyester		

MAIN CHASSIS PARTS LIST

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER, THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

PC-A

BOARD ASSEMBLIES

DESCRIPTION	EP90X40	75/300 ohm Adapter (Antenna)
	EP2X544	BRACKET - Ckt. Bd. Support, Plastic
	EP2X543	BRACKET - H.V.T. Brace, Plastic
	EP2X542	BRACKET - Color & VIR Board Support, Plastic
Main Circuit Board	EP8X97	CABLE - Coaxial, VHF to UHF
RGB Board	EP8X103	CABLE - ET91 to VHF & KMP to VHF
Horiz. Heat Sink Board	EP8X124	CABLE - ET91 to UHF & KMP to UHF
Color Averaging	EP3X4	CLIP - Upper CRT Bkt.—Tuner
VIR Board	EP2X540	CLIP - Anode Retainer
	RL1	CONNECTOR - 5 Pos.
	RL3	CONNECTOR - 6 Pos.
	RL6	CONNECTOR - 7 Pos.
	RL7	CONNECTOR - 2 Pos.
	RL9	CONNECTOR - 3 Pos.
	RL10	CONNECTOR - 3 Pos. (ET91/KMP91)
	RL10	CONNECTOR - 3 Pos. (Direct/LMP91)
	PG12	CONNECTOR - 1 Pin
	RL16A	CONNECTOR - 7 Pos.
	RL17	CONNECTOR - 5 Pos.
	RL28	CONNECTOR - 4 Pins
	RL60	CONNECTOR - 2 Pins
	* EP66X19	CORD - AC Power, Polarized, Wired-In-Type
	EP3X41	CUSHION - Yoke Wedge
	EP92X101	FRAME - Front & Sides, For Main Board, Plastic
	EP92X102	FRAME - Rear Support, For Main Board, Plastic
	* F901	FUSE - 4 amp, 250V, Snap-In, Fast Acting
	F903	FUSE - 1.25 amp, 250 V, Snap-In, Slow Blow
	EP34X66	SOCKET - CRT
	EP2X534	SPRING - Ground, CRT
	EP2X535	STRAPS - Degaussing Coil Adjust
	EP90X3	WIRE TIE

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IS

PM, Silicon

PM, Silicon

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cóifier, Silicon

FORMERS

IL - Degaussing
IL - Width
NVERGENCE ASM.
KE
ANSFORMER - H.V.
IL - Pincushion Asm.
P - Chassis Mounting
P - CRT Ground Terminal

MISCELLANEOUS

PART NO.	DESCRIPTION
ES3X29	CLIP - Antenna Terminal
EP2X540	CLIP - Power Cord Retainer
EP51X6	ISOLATION - Transformer, Coaxial Cable

ANTENNA TERMINAL BOARD ASM.

EP37X53

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
* C20	EP18X127	470pf, 20%, 125V, Cer. Disc.
* C21	EP18X127	470pf, 20%, 125V, Cer. Disc.
* C22	EP18X127	470pf, 20%, 125V, Cer. Disc.
* C23	EP18X127	470pf, 20%, 125V, Cer. Disc.

RESISTORS

* R20	EP14X241	1.8 meg ohm, 40%, 1/2W, Carbon
* R21	EP14X241	1.8 meg ohm, 40%, 1/2W, Carbon
* R22	EP14X241	1.8 meg ohm, 40%, 1/2W, Carbon
* R23	EP14X241	1.8 meg ohm, 40%, 1/2W, Carbon

MISCELLANEOUS

EP51X5	BALUN - 75 to 300 ohms
EP8X98	CABLE - Coaxial, From Antenna to IF
ES3X29	CLIP - Antenna Terminal
EP2X540	CLIP - Power Cord Holder, Plastic

MAIN CIRCUIT BOARD (PC)

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C103	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C104	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C105	EP31X138	.47uf, 20%, 50V, Elect.
C106	EP31X159	470uf, +50-10%, 16V, Elect.
C107	EP18X187	27pf, 5%, 50V, Cer. Disc
C108	EP18X191	68pf, 5%, 50V, Cer. Disc
C109	EP18X159	120pf, 5%, NPO, Cer. Disc
C110	EP18X220	1000pf, 10%, 500V SHiK, Cer. Disc
C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
C112	EP18X180	820pf, 10%, 50V, SHiK, Cer. Disc
C113	EP22X32	.01uf, 10%, 50V, HiK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, Cer. Disc
C116	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C117	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C118	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C119	EP31X11	4.7uf, 20%, 35V, Elect.
C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
C121	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C124	EP18X186	22pf, 10%, 50V, NPO, Cer. Disc
C125	EP31X45	47uf, 20%, 10V, Elect.
C126	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C127	EP22X32	.01uf, 20%, 50V, Cer. Disc
C135	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C136	EP18X81	1000pf, 10%, 500V, Cer. Disc
C137	EP18X81	1000pf, 10%, 500V, Cer. Disc

C139	EP18X220	1000pf, 10%, 500V, Cer. Disc
C142	EP18X259	1000pf, 20%, 500V, Cer. Disc
C180	EP18X189	47pf, 5%, 50V, Cer. Disc
C182	ES18X82	47pf, 5%, 50V, Cer. Disc
C183	EP25X87	.047uf, 10%, 50V, Polyester
C184	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C185	EP31X149	10uf, 20%, 35V, Elect.
C186	EP25X130	.022uf, 10%, 50V, Polyester
C187	EP18X168	1000pf, 10%, 50V, SHiK, Cer. Disc
C188	EP25X146	.033uf, 10%, 200V, Mylar
C189	EP31X149	10uf, 20%, 35V, Elect.
C190	EP31X149	10uf, 20%, 35V, Elect.
C191	EP18X170	.015uf, 10%, 25V, Cer. Disc
C192	EP18X168	1000pf, 10%, 500V SHiK, Cer. Disc
C193	EP18X192	150pf, 5%, 50V, NPO, Cer. Disc
C194	EP31X152	2.2uf, +50-20%, 250V, Elect.
C195	EP18X182	5.6pf, 10%, 50V, Cer. Disc
C196	EP31X153	22uf, +50-20%, 160V, Elect.
C197	EP31X11	4.7uf, 20%, 35V, Elect.
C198	EP31X149	10uf, 20%, 35V, Elect.
C199	EP18X169	.01uf, 30%, 25V, Cer. Disc
C200	EP18X213	1500pf, 10%, 50V, Cer. Disc
C202	EP31X149	10uf, 10%, 35V, Elect.
C204	EP18X169	.01uf, 30%, 25V, Cer. Disc
C206	EP31X44	22uf, 20%, 25V, Elect.
C208	EP18X167	.047uf, 20%, 50V, HiK, Cer. Disc
C210	EP18X159	120pf, 5%, NPO, Cer. Disc
C212	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
C216	EP31X149	10uf, 10%, 35V, Elect.
C218	EP31X78	1uf, 20%, 50V, Elect.
C234	EP31X59	470uf, 10%, 25V, Elect.
C236	EP18X169	.01uf, 30%, 25V, Elect.
C250	EP25X77	.1uf, 20%, 50V, Polyester
C256	EP31X44	22uf, 20%, 25V, Elect.
C300	EW31X116	33uf, +50-20%, 10%, Elect.
C302	EP31X49	1uf, 10%, 16V, Elect.
C306	EP18X122	82pf, 5%, 50V, Cer. Disc
C308	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C312	EP18X198	2200pf, 30%, 25V, NPO, Cer. Disc
C314	EP18X202	220pf, 10%, 50V, NPO, Cer. Disc
C316	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C320	EP18X219	30pf, 5%, 50V, Cer. Disc
C322	EP18X187	27pf, 5%, 50V, Cer. Disc
C326	EP25X124	.033uf, 20%, 50V, Polyester
C328	EP31X149	10uf, 20%, 35V, Elect.
C330	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
C334	EP18X194	100pf, 5%, 50V, Cer. Disc
C336	EP31X78	1uf, 20%, 50V, Elect.
C350	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C352	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C354	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C370	EP25X87	.047uf, 20%, 50V, Polyester
C372	EP18X223	180pf, 10%, 50V, HiK, Cer. Disc
C373	EP18X169	.01uf, 30%, 25V, NPO, Cer. Disc
C390	EU22X76	1000pf, 20%, 500V, HiK, Cer. Disc
C391	EP31X78	1uf, 20%, 50V, Elect.
C392	EP31X149	10uf, 10%, 35V, Elect.
C393	EU22X76	1000pf, 20%, 500V, HiK, Cer. Disc
C394	EU22X76	1000pf, 20%, 500V, HiK, Cer. Disc
C395	EP31X78	1uf, 20%, 50V, Elect.
C501	EP31X45	47uf, 20%, 25V, Elect.
C503	EP25X149	.0056uf, 5%, 100V, Polyester
C505	EP31X49	1uf, 10%, 16V, Elect.
C506	EP25X150	6800pf, 10%, 50V, Polyester
C507	EP25X87	.047uf, 10%, 50V, Polyester

C509	EP25X127	.015uf, 10%, 50V, Polyester
C512	EP25X95	.22uf, 10%, 50V, Polyester
C513	EP31X149	10uf, 20%, 35V, Elect.
C514	EP18X217	330pf, 10%, 50V, SHiK, Cer. Disc
C515	EP25X94	5600pf, 10%, 50V, Polyester
C517	EP25X87	.047uf, 10%, 50V, Polyester
C521	EP25X87	.047uf, 10%, 50V, Polyester
C523	EP25X77	.1uf, 20%, 50V, Polyester
C601	EP25X124	.033uf, 10%, 50V, Polyester
C603	EP31X149	10uf, 20%, 35V, Elect.
C605	EP18X229	6800pf, 10%, 50V, SHiK, Cer. Disc
C607	EP31X141	220uf, 20%, 25V, Elect.
C609	EP31X78	1uf, 20%, 50V, Elect.
C611	EP25X130	.022uf, 10%, 50V, Polyester
C613	EP18X223	180pf, 5%, 50V, NPO, Cer. Disc
C614	EW31X144	4.7uf, 20%, 50V, Elect.
C615	EP31X151	2.7uf, 20%, 160V, Elect.
C617	EU22X139	4700pf, 20%, 500V, HiK, Cer. Disc
C619	EP31X154	470uf, 20%, 10V, Elect.
C621	EP31X140	100uf, +50-10%, 100V, Elect.
C623	EP31X49	1uf, 10%, 16V, Elect.
C701	EP25X110	3300pf, 10%, 200V, Mylar
C703	EP18X217	330pf, 10%, 500V, SHiK, Cer. Disc
C705	EP25X148	.027uf, 10%, 100V, Mylar
C706	EP25X146	.033uf, 20%, 200V, Mylar
* C900	EP25X147	.1uf, 10%, 125V, Polyester
C901	EP18X220	1000pf, 20%, 1KV, Cer. Disc
* C902	EP31X158	330uf, +50-20% Elect.
C903	EP18X220	1000pf, 20%, 1KV, Cer. Disc
* C904	EP31X109	100uf, 10%, 160V, Elect.
C905	EP18X220	1000pf, 20%, 1KV, Cer. Disc
* C906	EP31X156	10uf, +50-20%, 180V, Elect.
C907	EP18X220	1000pf, 20%, 1KV, Cer. Disc
C921	EU22X76	1000pf, 20%, 500V, Cer. Disc
C923	ET22X151	470pf, 20%, 1KV, Cer. Disc
C924	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C925	EP31X159	470uf, +50-20%, 25V, Elect.
C927	ET22X151	470pf, 20%, 1KV, Cer. Disc
C929	EP18X81	1000pf, 20%, 500V, Cer. Disc
C931	EP31X157	220uf, +50-%, 100V, Elect.
C933	EP25X89	.047uf, 20%, 300V, Mylar
C935	ET22X151	470pf, 20%, 1KV, Cer. Disc
C937	EP18X81	1000pf, 20%, 500V, Cer. Disc
C939	EP31X155	4.7uf, +50-20%, 160V, Elect.
C941	EP18X132	8200pf, 10%, 500V, Cer. Disc
C943	EP31X45	47uf, 20%, 16V, Elect.
C945	EP18X265	.015uf, 20%, 500V, HiK, Cer. Disc
C947	EP18X118	.1uf, 10%, 25V, Cer. Disc
C953	EP25X153	2200pf, 5%, 200V, Polypropylene
C955	EP20X20	.047uf, 10%, 200V, Mylar
C957	EP18X81	1000pf, 20%, 500V, Cer. Disc
C959	EP18X266	270pf, 20%, 1KV, Cer. Disc
C961	EP31X141	220uf, +50-10%, 10V, Elect.
C965	ET22X151	470pf, 20%, 1KV, Cer. Disc
C967	EP31X78	1uf, 20%, 50V, Elect.
C990	ET22X151	470pf, 20%, 1KV, HiK, Cer. Disc
C991	EP31X160	3.3uf, +50-20%, 160V, Elect.
C993	EP31X55	100uf, 20%, 10V, Elect.

RESISTORS

R101	EP14X187	100 ohm, 5%, 1/2W, Carbon
R102	EP14X180	5.6K ohm, 5%, 1/2W, Carbon
R103	ES14X62	1.5K ohm, 5%, 1/2W, Carbon
R104	ES14X57	390 ohm, 5%, 1/2W, Carbon

R105	ES14X56	33 ohm, 5%, 1/4W, Carbon	R316	EP14X128	330 ohm, 5%, 1/4W, Carbon
R107	ES14X59	560 ohm, 5%, 1/4W, Carbon	R318	Common	43K ohm, 5%, 1/4W, Carbon
R108	EP14X133	470K ohm, 5%, 1/4W, Carbon	R320	Common	1.2K ohm, 5%, 1/4W, Carbon
R109	ES14X58	470 ohm, 5%, 1/4W, Carbon	R322	ES14X58	470 ohm, 5%, 1/4W, Carbon
R111	EP14X252	3.9K ohm, 5%, 1/4W, Carbon	R326	ES14X71	1K ohm, 5%, 1/4W, Carbon
R112	EP14X303	470 ohm, 5%, 1/4W, Carbon	R328	ES14X71	1K ohm, 5%, 1/4W, Carbon
R113	EP14X284	1K ohm, 5%, 1/4W, Carbon	R336	Common	5.1K ohm, 5%, 1/4W, Carbon
R114	EP14X303	470 ohm, 5%, 1/4W, Carbon	R338	EP14X105	100K ohm, 5%, 1/4W, Carbon
R115	EP14X252	3.9K ohm, 5%, 1/4W, Carbon	R350	Common	3.6K ohm, 5%, 1/4W, Carbon
R117	Common	220 ohm, 5%, 1/4W, Carbon	R352	Common	3.6K ohm, 5%, 1/4W, Carbon
R118	Common	9.1K ohm, 5%, 1/4W, Carbon	R354	EP14X128	330 ohm, 5%, 1/4W, Carbon
R119	EP14X119	68K ohm, 5%, 1/4W, Carbon	R355	EP14X128	330 ohm, 5%, 1/4W, Carbon
R121	EP14X125	47K ohm, 5%, 1/4W, Carbon	R356	Common	3.6K ohm, 5%, 1/4W, Carbon
R122	ES14X51	47 ohm, 5%, 1/4W, Carbon	R358	EP14X128	330 ohm, 5%, 1/4W, Carbon
R123	EP14X304	2.7K ohm, 5%, 1/4W, Carbon	R370	ES14X71	1K ohm, 5%, 1/4W, Carbon
R125	EP14X243	2.2K ohm, 5%, 1/4W, Carbon	R371	EP14X304	2.7K ohm, 5%, 1/4W, Carbon
R126	EP14X184	2.4K ohm, 5%, 1/4W, Carbon	R372	EP14X187	100 ohm, 5%, 1/4W, Carbon
R128	EP14X185	120K ohm, 5%, 1/4W, Carbon	R380	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R129	ES14X59	560 ohm, 5%, 1/4W, Carbon	R381	EP14X180	5.6K ohm, 5%, 1/4W, Carbon
R130	EP14X304	2.7K ohm, 5%, 1/4W, Carbon	R389	Common	820K ohm, 10%, 1/4W, Carbon
R131	Common	5.1K ohm, 5%, 1/4W, Carbon	R390	Common	200 ohm, 5%, 1/4W, Carbon
R133	ES14X71	1K ohm, 5%, 1/4W, Carbon	R391	Common	5.1K ohm, 5%, 1/4W, Carbon
R134	Common	120 ohm, 5%, 1/4W, Carbon	R503	EP14X323	6.8K ohm, 5%, 3W, Metal Oxide
R135	Common	220 ohm, 5%, 1/4W, Carbon	R506	Common	5.1K ohm, 5%, 1/4W, Carbon
R136	ES14X70	100 ohm, 5%, 1/4W, Carbon	R507	Common	11K ohm, 5%, 1/4W, Carbon
R180	ES14X71	1K ohm, 5%, 1/4W, Carbon	R508	EP14X188	15 ohm, 5%, 1/4W, Carbon
R181	EP14X243	2.2K ohm, 5%, 1/4W, Carbon	R509	EP14X119	68K ohm, 5%, 1/4W, Carbon
R182	EP14X284	1K ohm, 5%, 1/4W, Carbon	R511	Common	6.2K ohm, 5%, 1/4W, Carbon
R183	EP14X284	1K ohm, 5%, 1/4W, Carbon	R513	EP14X103	10K ohm, 5%, 1/4W, Carbon
R186	Common	300 ohm, 5%, 1/4W, Carbon	R515	EP14X12	1 meg ohm, 5%, 1/4W, Carbon
R188	EP14X105	100K ohm, 5%, 1/4W, Carbon	R516	Common	270K ohm, 5%, 1/4W, Carbon
R190	Common	62K ohm, 5%, 1/4W, Carbon	R517	Common	110K ohm, 5%, 1/4W, Carbon
R191	Common	1.6K ohm, 5%, 1/4W, Carbon	R518	Common	240K ohm, 5%, 1/4W, Carbon
R192	Common	200 ohm, 5%, 1/4W, Carbon	R519	Common	62K ohm, 5%, 1/4W, Carbon
R193	Common	36K ohm, 5%, 1/4W, Carbon	R521	EP14X187	100 ohm, 5%, 1/4W, Carbon
R194	EP14X103	10K ohm, 5%, 1/4W, Carbon	R523	ES14X57	390 ohm, 5%, 1/4W, Carbon
R195	EP14X180	5.6K ohm, 5%, 1/4W, Carbon	R525	EP14X304	2.7K ohm, 5%, 1/4W, Carbon
R198	ES14X271	8.2K ohm, 5%, 1/4W, Carbon	R527	EP14X180	5.6K ohm, 5%, 1/4W, Carbon
R200	ES14X69	56 ohm, 5%, 1/4W, Carbon	R529	Common	270 ohm, 5%, 1/4W, Carbon
R202	EP14X285	20K ohm, 5%, 1/4W, Carbon	R531	ES14X56	33 ohm, 5%, 1/4W, Carbon
R204	Common	1.2K ohm, 5%, 1/4W, Carbon	R533	EP14X106	1 meg ohm, 10%, 1/4W, Carbon
R205	ES14X71	1K ohm, 5%, 1/4W, Carbon	R535	EP14X180	5.6K ohm, 5%, 1/4W, Carbon
R206	EP14X190	1.8K ohm, 5%, 1/4W, Carbon	R537	Common	51K ohm, 5%, 1/4W, Carbon
R208	EP14X303	22K ohm, 5%, 1/4W, Carbon	R601	EP14X285	15K ohm, 5%, 1/4W, Carbon
R209	EP14X182	68 ohm, 5%, 1/4W, Carbon	R603	ES14X51	47 ohm, 5%, 1/4W, Carbon
R210	Common	200 ohm, 5%, 1/4W, Carbon	R605	EP14X103	10K ohm, 5%, 1/4W, Carbon
R211	EP14X249	4.7K ohm, 5%, 1/4W, Carbon	R609	EP14X122	7.5K ohm, 5%, 1/4W, Carbon
R212	EP14X284	12K ohm, 5%, 1/4W, Carbon	R611	Common	330 ohm, 5%, 1/4W, Carbon
R213	EP14X271	82K ohm, 5%, 1/4W, Carbon	R613	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R216	Common	330 ohm, 5%, 1/4W, Carbon	R615	EP14X285	20K ohm, 5%, 1/4W, Carbon
R218	EP14X283	680 ohm, 5%, 1/4W, Carbon	R617	Common	220 ohm, 5%, 1/4W, Carbon
R220	EP14X189	1.1K ohm, 5%, 1/4W, Carbon	R621	EP14X272	6.8 ohm, 5%, 1W, Metal Oxide
R221	EP14X293	680K ohm, 5%, 1/4W, Carbon	R623	Common	8.2K ohm, 5%, 1/4W, Carbon
R222	EP14X271	82K ohm, 5%, 1/4W, Carbon	R625	Common	220 ohm, 5%, 1/4W, Carbon
R224	EP14X309	6.8K ohm, 5%, 1/4W, Carbon	R627	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R226	ES14X59	560 ohm, 5%, 1/4W, Carbon	R631	EP14X309	6.8K ohm, 5%, 1/4W, Carbon
R228	ES14X65	4.7K ohm, 5%, 1/4W, Carbon	R633	Common	8.2K ohm, 5%, 1/4W, Carbon
R230	ES14X71	1K ohm, 5%, 1/4W, Carbon	R635	Common	180 ohm, 5%, 1/4W, Carbon
R234	EP14X288	18K ohm, 5%, 1/4W, Carbon	R637	EP14X187	100 ohm, 5%, 1/4W, Carbon
R240	ES14X71	1K ohm, 5%, 1/4W, Carbon	R639	ES14X71	1K ohm, 5%, 1/4W, Carbon
R250	ES14X62	1.5K ohm, 5%, 1/4W, Carbon	R641	EP14X188	15 ohm, 5%, 1/4W, Carbon
R252	EP14X104	22K ohm, 5%, 1/4W, Carbon	R643	EP14X102	560 ohm, 5%, 1W, Metal Oxide
R254	EP14X105	100K ohm, 5%, 1/4W, Carbon	R645	EP14X102	560 ohm, 5%, 1W, Metal Oxide
R256	EP14X184	2.4K ohm, 5%, 1/4W, Carbon	R647	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R258	EP14X285	15K ohm, 5%, 1/4W, Carbon	R649	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R270	Common	10 ohm, 5%, 1/4W, Carbon	R651	Common	10 ohm, 5%, 1/4W, Carbon
R300	Common	36K ohm, 5%, 1/4W, Carbon	R653	EP14X220	180 ohm, 5%, 2W, Metal Oxide
R302	EP14X285	15K ohm, 5%, 1/4W, Carbon	R655	Common	2.7K ohm, 5%, 1/4W, Carbon
R310	EP14X133	470K ohm, 5%, 1/4W, Carbon	R702	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R312	EP14X304	2.7K ohm, 5%, 1/4W, Carbon	R703	EP14X262	.47 ohm, 5%, 2W, Metal Oxide

R707	EP14X62	1.5K ohm, 5%, 2W, Metal Oxide
R900	EP14X106	1 meg ohm, 5%, 1/4W, Carbon
R902	EP14X113	Degaussing
R903	EP14X105	100K ohm, 5%, 1/4W, Carbon
R905	EP14X317	1.5 ohm, 10%, 5W, Wirewound
R907	EP14X317	1.5 ohm, 10%, 5W, Wirewound
R921	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R923	ES14X79	1 ohm, 5%, 1/2W, Flame Proof
R925	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R927	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R929	EP14X210	.82 ohm, 5%, 1W, Metal Oxide
R932	Common	120 ohm, 5%, 1/4W, Carbon
R932A	Common	120 ohm, 5%, 1/4W, Carbon
R933	Common	220K ohm, 5%, 1/2W, Carbon
R935	EP14X190	1.8K ohm, 5%, 1/4W, Carbon
R936	EU13X4	1K ohm, 5%, 1/2W, Carbon
R937	EP14X287	4.7 ohm, 5%, 1W, Metal Oxide
R939	EP14X187	100 ohm, 5%, 1/4W, Carbon
R941	EP14X154	22 ohm, 5%, 2W, Metal Oxide
R951	EP14X320	68K ohm, 2%, 1W, Metal Oxide
R952	Common	1.8 meg ohm, 5%, 1/4W, Carbon
R955	EP14X252	3.9K ohm, 2%, 1/4W, Carbon
R957	EP14X284	1K ohm, 5%, 1/4W, Carbon
R959	EP14X284	1K ohm, 5%, 1/4W, Carbon
R961	ES14X71	1K ohm, 5%, 1/4W, Carbon
R963	Common	220 ohm, 5%, 1/4W, Carbon
R965	Common	6.2K ohm, 5%, 1/4W, Carbon
R969	ES14X56	33 ohm, 5%, 1/4W, Carbon
R971	EP14X128	330 ohm, 5%, 1/4W, Carbon
R973	ES14X58	470 ohm, 5%, 1/4W, Carbon
R975	EP14X275	1K ohm, 10%, 3W, Wirewound
R981	EP14X318	3 ohm, 10%, 5W, Wirewound
R983	EP14X321	470 ohm, 5%, 2W, Metal Oxide
R985	Common	240 ohm, 5%, 1/4W, Carbon
R990	EP14X269	20 ohm, 5%, 1/4W, Flame Proof
R996	EP14X250	2.2K ohm, 5%, 1/4W, Carbon
R998	Common	27K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

R116	EP49X463	RF/AFC, 5K, 20%
R124	EP49X463	IF/AGC, 5K, 20%
R214	EP49X464	Sharpness, 1K, 20%
R262	EP49X463	Brightness, 5K, 20%
R330	EP49X466	APC, 50K, 20%
R505	EP49X463	Horiz. Hold, 5K, 20%
R619	EP49X466	Vert. Height, 250 ohm, 20%
R629	EP49X467	Vert. Hold, 10K, 20%
R657	EP49X466	Vert. Centering, 50K, 20%
R953	EP49X468	Reg., 1K, 20%

INTEGRATED CIRCUITS

IC101	EP62X154	HVSD - Thick Film
IC190	EP84X213	VIF/Dat/AFC
IC300	EP84X216	IF/Sound
IC501	EP84X214	Chroma/Video
IC901	EP84X215	Syme. Sep.
SF100	EP84X217	12V, 3 Ter. Regulator
SF101	EP41X126	Ceramic Filter, 4-5mhz, Audio
X300	EP41X123	Wave Filter
	EP41X10	Crystal-Quartz

TRANSISTORS

SCR903	EP15X217	SCR Regular, PNP
Q105	EP15X104	IF, Preamplifier HF, BiPolar
Q110	EP15X87	Video Emitter Follower, NPN
Q190	EP15X19	Audio Output, NPN
Q192	EP15X19	Audio Output, NPN

Q200	EP15X88	Beam Current Limiter, NPN
Q202	EP15X48	Beam Current Limiter, PNP
Q204	EP15X88	Video Peaking, NPN
Q206	EP15X83	Video Peaking, NPN
Q207	EP15X57	Video Driver, PNP
Q300	EP15X88	Burst Gate, NPN
Q501	EP15X48	Noise Canceller, PNP
Q601	EP15X105	Vertical Output, NPN
Q603	EP15X105	Vertical Output, NPN
Q701	EP15X19	Horizontal Driver, NPN
Q901	EP15X88	116 Volt Regulator, NPN
Q903	EP15X91	Regulator Discharge, NPN
Q905	EP15X57	Regulator Trigger, PNP

DIODES

Y190	EP57X4	Rectifier, Silicon
Y192	EP57X4	Rectifier, Silicon
Y194	EP16X58	Zener
Y202	ES16X27	Silicon
Y204	ES16X27	Silicon
Y206	ES16X27	Silicon
Y300	EP16X147	Schockley
Y350	EP16X58	Zener
Y352	EP16X58	Zener
Y354	EP16X58	Zener
Y370	ES16X27	Silicon
Y382	ES16X27	Silicon
Y501	ES16X27	Silicon
Y503	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP57X4	Rectifier, Silicon
Y605	EP57X4	Rectifier, Silicon
Y607	EP57X4	Rectifier, Silicon
Y609	EP57X4	Rectifier, Silicon
Y901	EP57X4	Rectifier, Silicon
Y903	EP57X4	Rectifier, Silicon
Y905	EP57X4	Rectifier, Silicon
Y907	EP57X4	Rectifier, Silicon
Y921	EP16X149	Rectifier, Fast Recovery
Y923	EP57X5	Rectifier, Silicon
Y925	EP57X5	Rectifier, Silicon
Y951	EP16X19	Zener
Y955	EP57X5	Rectifier, Silicon
Y957	EP16X148	Zener
Y958	EP16X148	Zener
Y959	ES16X27	Silicon
Y961	ES16X27	Silicon
Y963	EP16X154	Rectifier, Silicon
Y963A	EP16X154	Rectifier, Silicon
Y965	EU16X11	Silicon
Y990	ES16X27	Silicon
Y991	EP57X4	Silicon
Y992	EP57X5	Rectifier, Silicon

COILS & TRANSFORMERS

L101	EP36X442	CHOKE - .82uh, 10%
L102	EP36X442	CHOKE - .82uh, 10%
L103	EP36X442	CHOKE - .82uh, 10%
L104	EP36X4	CHOKE - 9.2uh
L105	EP36X312	COIL - 4.5mc, Trap
L106	EP36X433	COIL - 45.75 mhz, Molded
L107	EP36X433	COIL - 45.75 mhz, Molded
L108	EP36X434	COIL - IF & 41.25 mhz, Trap
L180	EP36X144	CHOKE - 27uh, 5%
L190	EP36X435	COIL - Quad.
L196	ES36X82	CHOKE - 220uh
L200	EP36X314	CHOKE - 30uh, 10%
L204	EP36X17	CHOKE - 150uh, 10%

PC CHASSIS

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

19" PC-B CHASSIS

CIRCUIT BOARD ASSEMBLIES

PART NO.	DESCRIPTION
	Main Circuit Board
EP93X377	RGB Circuit Board
EP93X453	Horiz. Heat Sink Circuit Board
EP93X381	VIR Circuit Board

CHASSIS

PARTS NOT ON CIRCUIT BOARDS

CAPACITORS		
REF. NO.	PART NO.	DESCRIPTION
C30	EP31X45	47uf, 10%, 25V, Elect.
C60	ES25X22	.01uf, 20%, 50V, Polyester
C90	EP31X149	10uf, 20%, 35V, Elect.
C232	EP31X147	47uf, +50-10%, 250V, Elect.

RESISTORS		
REF. NO.	PART NO.	DESCRIPTION
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R234	EP14X296	100 ohm, 5%, 1/2W, Metal Oxide
R235	EP14X326	VARSISTOR-"MOV", Metal Oxide

POTENTIOMETER		
REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	Horiz. Centering

TRANSISTOR		
REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	NPN, Silicon

DIODE		
REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier Silicon

COILS & TRANSFORMER		
REF. NO.	PART NO.	DESCRIPTION
	EP36X445	COIL-Degaussing
	EP42X6	CONVERGENCE ASM
	EP76X30	YOKE
L30	ES36X82	CHOKER-220uh, 10
L1901	EP36X443	COIL-Width
* T701	EP77X56	TRANSFORMER-H V
* T1901	EP36X444	COIL-Pincushion ASM

MISCELLANEOUS		
REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR 75 to 300 ohm (Antenna)
	EP8X36	ANODE-CRT Connector
	EP2X544	BRACKET-Ckt Bd Support Plastic
	EP2X546	BRACKET-CRT Ground Terminal
	EP2X545	BRACKET-H.V.T. Brace, Plastic
	EP2X539	BRACKET-H V T Support, Plastic
	EP2X271	BRACKET-Rib Boss For Cabinet Front
	EP2X548	BRACKET-Anode Lead Dress
	EP8X97	CABLE-Coaxial, VHF to UHF
	EP8X60	CABLE-Antenna Bracker To Tuner
	EP8X124	CABLE-2191 to UHF & 2192 to GHF
	EP2X90	CLAMP-Yoke & Conn. Retainer
	EP3X	CLIP-Upper CRT Bkt - Tuner
	EP2X545	CLIP-Chassis Mounting (Uses 2)
	EP2X548	CLIP-Anode Retainer

MISCELLANEOUS		
REF. NO.	PART NO.	DESCRIPTION
	RL1	CONNECTOR-5 Pos
	RL3	CONNECTOR-6 Pos
	RL6	CONNECTOR-7 Pos
	RL7	CONNECTOR-2 Pos
	RL9	CONNECTOR-3 Pos
	RL10	CONNECTOR-3 Pos (KMP117/LAP112)
	PG/RL12	CONNECTOR-1 Pin
	RL16A	CONNECTOR-7 Pos
	RL17	CONNECTOR-5 Pos
	RL18	CONNECTOR-4 Pins
	RL59	CONNECTOR-2 Pins
	RL60	CONNECTOR-2 Pins
	RL232	CONNECTOR-5 Pos
	PG230	CONNECTOR-2 Pins
	EP66X19	CORD-AC Power, Polarized, Wired in-Type
	EP3X41	CUSHION-Yoke Wedge
	EP92X101	FRAME-Front & Sides, For Main Board Support, Plastic
	EP92X102	FRAME-Rear Support, For Main Board, Plastic
	F901	FUSE-4 amp, 250V, Snap-In, Fast Acting
	F903	FUSE-1 25 amp, 250V Snap-In, Slow Acting
	EP34X65	SOCKET-CRT
	EP2X534	SPRING-Ground, CRT (Uses 2)
	EP2X535	STRAPS-Degaussing Coil Adjust
	EP90X3	Wire Tie

MAIN CIRCUIT BOARD

CAPACITORS		
REF. NO.	PART NO.	DESCRIPTION
C101	EP18X205	560pf, 10%, 50V, SHIK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHIK, Cer. Disc
C103	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C104	EP18X220	1000pf, 10%, 500V, SHIK, Cer. Disc
C105	EP31X138	.47uf, 20%, 50V, Elect.
C106	EP31X159	470uf, +50-10%, 16V, Elect.
C107	EP18X187	27pf, 5%, 50V, Cer. Disc
C108	EP18X191	68pf, 5%, 50V, Cer. Disc
C109	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C110	EP18X220	1000pf, 10%, 500V, SHIK, Cer. Disc
C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
C112	EP18X180	820pf, 10%, 50V, SHIK, Cer. Disc
C113	EP22X32	.01uf, 10%, 50V, SHIK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, Cer. Disc
C116	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C117	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C118	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C119	EP31X170	4.7uf, 20%, 35V, Elect.
C120	ES22X208	120pf, 10%, 50V, SHIK, Cer. Disc
C121	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C124	EP18X186	22pf, 10%, 50V, NPO, Cer. Disc
C125	EP31X45	47uf, 20%, 10V, Elect.
C126	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C127	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C135	EP18X220	1000pf, 10%, 500V, SHIK, Cer. Disc
C136	EP18X220	1000pf, 10%, 500V, Cer. Disc
C137	EP18X220	1000pf, 10%, 500V, Cer. Disc
C139	EP18X220	1000pf, 10%, 500V, SHIK, Cer. Disc
C142	EP10X259	1000pf, 20%, 500V, Cer. Disc
C180	EP18X189	47pf, 5%, 50V, Cer. Disc
C182	EP18X189	47pf, 5%, 50V, Cer. Disc
C183	EP25X87	.047uf, 10%, 50V, Polyester
C184	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C185	EP31X149	10uf, 20%, 35V, Elect.
C186	EP25X130	.022uf, 10%, 50V, Polyester
C187	EP18X220	1000pf, 10%, 500V, SHIK, Cer. Disc
C188	EP25X146	.033uf, 10%, 200V, Mylar
C189	EP31X149	10uf, 20%, 35V, Elect.
C190	EP31X149	10uf, 20%, 35V, Elect.
C191	EP18X170	.015uf, 10%, 25V, Cer. Disc
C192	EP18X220	1000pf, 10%, 500V, SHIK, Cer. Disc
C193	EP18X192	150pf, 5%, 50V, NPO, Cer. Disc

CAPACITORS		
REF. NO.	PART NO.	DESCRIPTION
C194	EP31X152	2.2uf, +50-20%, 250V, Elect.
C195	EP18X182	5.6pf, 10%, 50V, Cer. Disc
C196	EP31X153	22uf, +50-10%, 160V, Elect.
C197	EP31X170	4.7uf, 20%, 35V, Elect.
C198	EP31X149	10uf, 20%, 35V, Elect.
C199	EP18X169	.01uf, 30%, 25V, Cer. Disc
C200	EP18X213	1500pf, 10%, 50V, Cer. Disc
C202	EP31X149	10uf, 10%, 35V, Elect.
C204	EP18X169	.01uf, 30%, 25V, Cer. Disc
C205	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C206	EP31X172	22uf, 20%, 25V, Elect.
C208	EP18X167	.047uf, 20%, 50V, HiK, Cer. Disc
C210	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C216	EP31X149	10uf, 10%, 35V, Elect.
C218	EP31X78	1uf, 20%, 50V, Elect.
C234	EP31X88	47uf, 10%, 16V, Elect.
C236	EP18X169	.01uf, 30%, 25V, Elect.
C240	ES18X56	18pf, 10%, 500V, Cer. Disc
C250	EP25X77	.1uf, 20%, 50V, Polyester
C256	EP31X172	22uf, 20%, 25V, Elect.
C300	EW31X175	33uf, +50-20%, 10V, Elect.
C302	EP31X49	1uf, 10%, 16V, Elect.
C306	EP18X122	82pf, 5%, 50V, Cer. Disc
C308	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C312	EP18X198	2200pf, 30%, 25V, NPO, Cer. Disc
C314	EP18X202	220pf, 10%, 50V, NPO, Cer. Disc
C316	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C320	EP18X219	30pf, 5%, 50V, Cer. Disc
C322	EP18X187	27pf, 5%, 50V, Cer. Disc
C326	EP25X124	.033uf, 20%, 50V, Polyester
C328	EP31X149	10uf, 20%, 35V, Elect.
C330	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
C334	EP18X194	100pf, 5%, 50V, Cer. Disc
C336	EP31X78	1uf, 20%, 50V, Elect.
C350	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C352	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C354	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C370	EP25X87	.047uf, 20%, 50V, Polyester
C372	EP18X223	180pf, 10%, 50V, HiK, Cer. Disc
C373	EP18X169	.01uf, 30%, 25V, NPO, Cer. Disc
C390	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
C391	EP31X78	1uf, 20%, 50V, Elect.
C392	EP31X149	10uf, 20%, 35V, Elect.
C393	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
C394	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
C395	EP31X78	1uf, 20%, 50V, Elect.
C501	EP31X45	47uf, 20%, 16V, Elect.
C503	EP25X149	5600pf, 5%, 100V, Polypropylene
C505	EP31X49	1uf, 10%, 16V, Elect.
C506	EP25X150	6800pf, 10%, 50V, Polyester
C507	EP25X87	.047uf, 10%, 50V, Polyester
C509	EP25X127	.015uf, 10%, 50V, Polyester
C512	EP25X95	.22uf, 10%, 50V, Polyester
C513	EP31X149	10uf, 20%, 35V, Elect.
C514	EP18X217	330pf, 10%, 50V, SHIK, Cer. Disc
C515	EP25X94	5600pf, 10%, 50V, Polyester
C517	EP25X87	.047uf, 10%, 50V, Polyester
C521	EP25X160	8200pf, 10%, 50V, Polyester
C523	EP25X77	.1uf, 20%, 50V, Polyester
C601	EP25X124	.033uf, 10%, 50V, Polyester
C603	EP31X149	10uf, 20%, 35V, Elect.
C605	EP18X229	6800pf, 10%, 50V, SHIK, Cer. Disc
C607	EP31X141	220uf, 20%, 16V, Elect.
C609	EP31X78	1uf, 20%, 50V, Elect.
C611	EP25X130	.022uf, 10%, 50V, Polyester
C613	EP18X272	180pf, 5%, 50V, Cer. Disc
C614	EP31X11	4.7uf, 20%, 50V, Elect.
C615	EP31X151	2.7uf, 20%, 160V, Elect.
C617	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C619	EP31X154	470uf, 20%, 10V, Elect.
C621	EP31X169	100uf, 20%, 50V, Elect.
C623	EP31X49	1uf, 10%, 16V, Elect.
C701	EP25X110	3300pf, 10%, 200V, Mylar
C703	EP18X217	330pf, 10%, 500V, SHIK, Cer. Disc
C705	EP25X148	.027uf, 10%, 100V, Polyester
C706	EP25X146	.033uf, 20%, 200V, Mylar
* C902	EP18X220	1000pf, 20%, 1KV, Cer. Disc
* C903	EP31X158	330uf, +50-20%, 180V, Elect.
* C904	EP31X220	1000pf, 20%, 1KV, Cer. Disc
* C905	EP18X220	1000pf, 20%, 1KV, Cer. Disc
* C906	EP31X156	10uf, +50-20%, 180V, Elect.
C907	EP18X220	1000pf, 20%, 1KV, Cer. Disc
C921	EU22X76	1000pf, 20%, 500V, HiK, Cer. Disc
C923	ET22X151	470pf, 20%, 1KV, HiK, Cer. Disc
C924	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C925	EP31X159	470uf, +50-10%, 25V, Elect
C927	ET22X151	470pf, 20%, 1KV, HiK, Cer. Disc
C929	EP18X81	1000pf, 20%, 500V, Cer. Disc

CAPACITORS		
REF. NO.	PART NO.	DESCRIPTION
C931	EP31X157	220uf, +50-10%, 100V, Elect
C933	EP25X89	.047uf, 20%, 300V, Mylar
C935	ET22X151	470pf, 20%, 1KV, HiK, Cer. Disc
C937	EP18X81	1000pf, 20%, 500V, Cer. Disc
C939	EP31X155	4.7uf, +50-20%, 160V, Elect
C941	EP18X132	8200pf, 10%, 500V, Cer. Disc
C943	EP31X45	47uf, 20%, 16V, Elect.
C945	EU22X212	6800pf, 20%, 500V, Cer. Disc
C947	EP18X118	.1uf, 10%, 25V, Cer. Disc
C953	EP25X161	1800pf, 10%, 200V, Mylar
C955	EP20X20	.047uf, 10%, 200V, Mylar
C957	EP18X81	1000pf, 20%, 500V, Cer. Disc
C959	EP18X266	270pf, 20%, 1KV, SHIK, Cer. Disc
C961	EP31X35	10uf, 10%, 35V, Elect.
C965	EP18X11	470pf, 10%, 1KV, Cer. Disc
C967	EP31X78	1uf, 20%, 50V, Elect.
C990	ET22X151	470pf, 20%, 1KV, HiK, Cer. Disc
C991	EP31X160	3.3uf, +50-10%, 160V, Elect.
C993	EP31X55	100uf, 20%, 10V, Elect.

RESISTORS		
REF. NO.	PART NO.	DESCRIPTION
R101	EP14X187	100 ohm, 5%, 1/8W, Carbon
R102	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R103	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R104	ES14X57	390 ohm, 5%, 1/8W, Carbon
R105	ES14X56	33 ohm, 5%, 1/8W, Carbon
R107	ES14X59	560 ohm, 5%, 1/8W, Carbon
R108	EP14X133	470K ohm, 5%, 1/8W, Carbon
R109	ES14X58	470 ohm, 5%, 1/8W, Carbon
R111	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
R112	EP14X303	470 ohm, 5%, 1/8W, Carbon
R113	EP14X284	1K ohm, 5%, 1/8W, Carbon
R114	EP14X303	470 ohm, 5%, 1/8W, Carbon
R115	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
R117	Common	220 ohm, 5%, 1/8W, Carbon
R118	Common	9.1K ohm, 5%, 1/8W, Carbon
R119	EP14X119	68K ohm, 5%, 1/8W, Carbon
R121	EP14X125	47K ohm, 5%, 1/8W, Carbon
R122	EP14X182	68 ohm, 5%, 1/8W, Carbon
R123	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
R125	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R126	EP14X184	2.4K ohm, 5%, 1/8W, Carbon
R128	EP14X185	120K ohm, 5%, 1/8W, Carbon
R129	ES14X59	560 ohm, 5%, 1/8W, Carbon
R130	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
R131	EP14X288	18K ohm, 5%, 1/8W, Carbon
R133	ES14X71	1K ohm, 5%, 1/8W, Carbon
R134	Common	120 ohm, 5%, 1/4W, Carbon
R135	Common	220 ohm, 5%, 1/4W, Carbon
R136	EP14X239	750 ohm, 5%, 1/8W, Carbon
R180	ES14X71	1K ohm, 5%, 1/8W, Carbon
R181	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R182	EP14X284	1K ohm, 5%, 1/8W, Carbon
R183	EP14X284	1K ohm, 5%, 1/8W, Carbon
R186	Common	300 ohm, 5%, 1/8W, Carbon
R188	EP14X105	100K ohm, 5%, 1/8W, Carbon
R190	Common	62K ohm, 5%, 1/8W, Carbon
R191	Common	1.6K ohm, 5%, 1/8W, Carbon
R192	EP14X329	200 ohm, 5%, 1/2W, Carbon Fl. Proof
R193	Common	36K ohm, 5%, 1/4W, Carbon
R194	EP14X103	10K ohm, 5%, 1/8W, Carbon
R195	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R198	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R200	ES14X69	56 ohm, 5%, 1/8W, Carbon
R202	EP14X285	20K ohm, 5%, 1/8W, Carbon
R204	Common	1.2K ohm, 5%, 1/8W, Carbon
R205	ES14X71	1K ohm, 5%, 1/8W, Carbon
R206	EP14X190	1.8K ohm, 5%, 1/8W, Carbon</

CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE T AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME CHARACTERISTICS AS THE ORIGINAL PARTS MAY CAUSE THE RECEIVER TO OPERATE IN AN UNDESIRABLE MANNER. FOR THE MOST PART, THE PARTS LIST AND THE SCHEMATIC DIAGRAM ARE THE ONLY SOURCES OF INFORMATION FOR THE IDENTIFICATION OF COMPONENTS. FOR THE MOST PART, THE PARTS LIST AND THE SCHEMATIC DIAGRAM ARE THE ONLY SOURCES OF INFORMATION FOR THE IDENTIFICATION OF COMPONENTS.

MASSIS

ASSEMBLIES

DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
Ant Board	RL1	EP8X93	CONNECTOR-5 Pos
Ant Board	RL3	EP8X71	CONNECTOR-6 Pos.
Ant Board	RL6	EP8X66	CONNECTOR-7 Pos.
Ant Board	RL7	EP8X68	CONNECTOR-2 Pos.
Ant Board	RL9	EP8X90	CONNECTOR-3 Pos.
Ant Board	RL10	EP8X94	CONNECTOR-3 Pos. (IMP112/IMP112)
Ant Board	PG/RL12	EP8X30	CONNECTOR-1 Pin
Ant Board	RL16A	EP8X66	CONNECTOR-7 Pos.
Ant Board	RL17	EP8X90	CONNECTOR-5 Pos.
Ant Board	RL28	EP8X42	CONNECTOR-4 Pins
Ant Board	RL59	EP8X43	CONNECTOR-2 Pins
Ant Board	RL60	EP8X43	CONNECTOR-2 Pins
Ant Board	RL232	EP8X90	CONNECTOR-5 Pos.
Ant Board	PG250	EP8X43	CONNECTOR-2 Pins
Ant Board		EP66X19	CORD-AC Power, Polarized, Wired In-Type

UNIT BOARDS

DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
Ant Board	EP3X41	EP92X101	CUSHION-Yoke Wedge
Ant Board	EP92X102		FRAME-Front & Sides, For Main Board Support, Plastic
Ant Board			FRAME-Rear Support, For Main Board, Plastic
Ant Board	* F901	EP10X19	FUSE-4 amp, 250V, Snap-In, Fast Acting
Ant Board	* F903	EP10X55	FUSE-1.25 amp, 250V, Snap-In, Slow Acting
Ant Board		EP34X65	SOCKET-CRT
Ant Board		EP2X534	SPRING-Ground, CRT (Uses 2)
Ant Board		EP2X535	STRAPS-Degaussing Coil Adjust
Ant Board		EP90X3	Wire Tie

MAIN CIRCUIT BOARD

DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
Ant Board	C101	EP18X205	560pf, 10%, 50V, SHIK, Cer. Disc
Ant Board	C102	EP18X205	560pf, 10%, 50V, SHIK, Cer. Disc
Ant Board	C103	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
Ant Board	C104	EP18X220	1000pf, 10%, 500V, SHIK, Cer. Disc
Ant Board	C105	EP31X135	.47uf, 20%, 50V, Elect.
Ant Board	C106	EP31X159	.47uf, 20%, 50V, Elect.
Ant Board	C107	EP18X187	27pf, 5%, 50V, Cer. Disc
Ant Board	C108	EP18X191	68pf, 5%, 50V, Cer. Disc
Ant Board	C109	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
Ant Board	C110	EP18X220	1000pf, 10%, 500V, SHIK, Cer. Disc
Ant Board	C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
Ant Board	C112	EP18X180	820pf, 10%, 50V, SHIK, Cer. Disc
Ant Board	C113	EP22X32	.01uf, 10%, 50V, SHIK, Cer. Disc
Ant Board	C114	EP18X191	68pf, 5%, 50V, Cer. Disc
Ant Board	C116	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
Ant Board	C117	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
Ant Board	C118	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
Ant Board	C119	EP31X170	4.7uf, 20%, 35V, Elect.
Ant Board	C120	ES22X208	120pf, 10%, 50V, SHIK, Cer. Disc
Ant Board	C121	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
Ant Board	C124	EP18X186	22pf, 10%, 50V, NPO, Cer. Disc
Ant Board	C125	EP31X45	.47uf, 20%, 10V, Elect.
Ant Board	C126	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
Ant Board	C127	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
Ant Board	C135	EP18X220	1000pf, 10%, 500V, SHIK, Cer. Disc
Ant Board	C136	EP18X220	1000pf, 10%, 500V, Cer. Disc
Ant Board	C137	EP18X220	1000pf, 10%, 500V, Cer. Disc
Ant Board	C139	EP18X220	1000pf, 10%, 500V, SHIK, Cer. Disc
Ant Board	C142	EP18X259	1000pf, 20%, 500V, Cer. Disc
Ant Board	C180	EP18X189	47pf, 5%, 50V, Cer. Disc
Ant Board	C182	EP18X189	47pf, 5%, 50V, Cer. Disc
Ant Board	C183	EP25X87	.047uf, 10%, 50V, Polyester
Ant Board	C184	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
Ant Board	C185	EP31X149	.01uf, 20%, 35V, Elect.
Ant Board	C186	EP25X130	.022uf, 10%, 50V, Polyester
Ant Board	C187	EP18X220	1000pf, 10%, 500V, SHIK, Cer. Disc
Ant Board	C188	EP25X146	.033uf, 10%, 200V, Mylar
Ant Board	C189	EP31X149	.01uf, 20%, 35V, Elect.
Ant Board	C190	EP31X149	.01uf, 20%, 35V, Elect.
Ant Board	C191	EP18X170	.01uf, 10%, 25V, Cer. Disc
Ant Board	C192	EP18X220	1000pf, 10%, 500V, SHIK, Cer. Disc
Ant Board	C193	EP18X192	150pf, 5%, 50V, NPO, Cer. Disc

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C194	EP31X152	2.2uf, +50-20%, 250V, Elect.
C195	EP18X182	5.6pf, 10%, 50V, Cer. Disc
C196	EP31X135	22uf, +50-10%, 160V, Elect.
C197	EP31X170	4.7uf, 20%, 35V, Elect.
C198	EP31X149	.01uf, 20%, 35V, Elect.
C199	EP18X169	.01uf, 30%, 25V, Cer. Disc
C200	EP18X213	1500pf, 10%, 50V, Cer. Disc
C201	EP31X149	.01uf, 10%, 35V, Elect.
C204	EP18X169	.01uf, 30%, 25V, Cer. Disc
C205	EP22X32	.01uf, 20%, 50V, HiK, Cer. Disc
C206	EP31X172	22uf, 20%, 25V, Elect.
C208	EP18X167	.047uf, 20%, 50V, HiK, Cer. Disc
C210	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C216	EP31X149	.01uf, 10%, 35V, Elect.
C218	EP31X78	.1uf, 20%, 50V, Elect.
C234	EP31X88	.47uf, 10%, 16V, Elect.
C236	EP18X169	.01uf, 30%, 25V, Elect.
C240	EP18X56	18pf, 10%, 500V, Cer. Disc
C250	EP25X77	.1uf, 20%, 50V, Polyester
C256	EP31X172	22uf, 20%, 25V, Elect.
C300	EP31X175	33uf, +50-20%, 10V, Elect.
C302	EP31X49	.1uf, 10%, 16V, Elect.
C306	EP18X122	82pf, 5%, 50V, Cer. Disc
C308	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C312	EP18X198	2200pf, 30%, 25V, NPO, Cer. Disc
C314	EP18X202	220pf, 10%, 50V, NPO, Cer. Disc
C316	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C320	EP18X219	30pf, 5%, 50V, Cer. Disc
C322	EP18X187	27pf, 5%, 50V, Cer. Disc
C326	EP25X124	.033uf, 20%, 50V, Polyester
C328	EP31X149	.01uf, 20%, 35V, Elect.
C330	EP18X32	.36pf, 5%, 50V, NPO, Cer. Disc
C334	EP18X194	100pf, 5%, 50V, Cer. Disc
C336	EP31X78	.1uf, 20%, 50V, Elect.
C350	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C352	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C354	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C370	EP25X87	.047uf, 20%, 50V, Polyester
C372	EP18X223	180pf, 10%, 50V, HiK, Cer. Disc
C373	EP18X169	.01uf, 30%, 25V, NPO, Cer. Disc
C390	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
C391	EP31X78	.1uf, 20%, 50V, Elect.
C392	EP31X149	.01uf, 20%, 35V, Elect.
C393	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
C394	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
C395	EP31X78	.1uf, 20%, 50V, Elect.
C501	EP31X45	.47uf, 20%, 16V, Elect.
C503	EP25X149	5600pf, 5%, 100V, Polypropylene
C505	EP31X49	.1uf, 10%, 16V, Elect.
C506	EP25X150	6800pf, 10%, 50V, Polyester
C507	EP25X87	.047uf, 10%, 50V, Polyester
C509	EP25X127	.015uf, 10%, 50V, Polyester
C512	EP25X95	.22uf, 10%, 50V, Polyester
C513	EP31X149	.01uf, 20%, 35V, Elect.
C514	EP18X217	330pf, 10%, 50V, SHIK, Cer. Disc
C515	EP25X94	5600pf, 10%, 50V, Polyester
C517	EP25X87	.047uf, 10%, 50V, Polyester
C521	EP25X100	8200pf, 10%, 50V, Polyester
C523	EP25X77	.1uf, 20%, 50V, Polyester
C601	EP25X124	.033uf, 10%, 50V, Polyester
C603	EP31X149	.01uf, 20%, 35V, Elect.
C605	EP18X229	6800pf, 10%, 50V, SHIK, Cer. Disc
C607	EP31X141	220uf, 20%, 16V, Elect.
C609	EP31X78	.1uf, 20%, 50V, Elect.
C611	EP25X130	.022uf, 10%, 50V, Polyester
C613	EP18X272	180pf, 5%, 50V, Cer. Disc
C614	EP31X11	4.7uf, 20%, 50V, Elect.
C615	EP31X151	2.7uf, 20%, 160V, Elect.
C617	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C619	EP31X154	470uf, 20%, 10V, Elect.
C621	EP31X169	100uf, 20%, 50V, Elect.
C623	EP31X49	.1uf, 10%, 16V, Elect.
C701	EP25X110	3300pf, 10%, 200V, Mylar
C703	EP18X217	330pf, 10%, 500V, SHIK, Cer. Disc
C705	EP25X148	.027uf, 10%, 100V, Polyester
C706	EP25X146	.033uf, 20%, 200V, Mylar
C901	EP18X220	1000pf, 20%, 1KV, Cer. Disc
* C902	EP31X158	330uf, +50-20%, 180V, Elect.
C903	EP18X220	1000pf, 20%, 1KV, Cer. Disc
* C904	EP31X109	100uf, 10%, 160V, Elect.
C905	EP18X220	1000pf, 20%, 1KV, Cer. Disc
* C906	EP31X156	.01uf, +50-20%, 180V, Elect.
C907	EP18X220	1000pf, 20%, 1KV, Cer. Disc
C921	EU22X76	1000pf, 20%, 500V, HiK, Cer. Disc
C923	ET22X151	470pf, 20%, 1KV, HiK, Cer. Disc
C924	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C925	EP31X159	470uf, +50-10%, 25V, Elect.
C927	ET22X151	470pf, 20%, 1KV, HiK, Cer. Disc
C929	EP18X81	1000pf, 20%, 500V, Cer. Disc

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C931	EP31X157	220uf, +50-10%, 100V, Elect.
C933	EP25X89	.047uf, 20%, 300V, Mylar
C935	ET22X151	470pf, 20%, 1KV, HiK, Cer. Disc
C937	EP18X81	1000pf, 20%, 500V, Cer. Disc
C939	EP31X155	4.7uf, +50-20%, 160V, Elect.
C941	EP18X132	8200pf, 10%, 500V, Cer. Disc
C943	EP31X45	.47uf, 20%, 16V, Elect.
C945	EU22X212	6800pf, 20%, 500V, Cer. Disc
C947	EP18X118	.1uf, 10%, 25V, Cer. Disc
C953	EP25X161	1800pf, 10%, 200V, Mylar
C955	EP20X20	.047uf, 10%, 200V, Mylar
C957	EP18X81	1000pf, 20%, 500V, Cer. Disc
C959	EP18X266	270pf, 20%, 1KV, SHIK, Cer. Disc
C961	EP31X35	.01uf, 10%, 35V, Elect.
C965	EP18X11	470pf, 10%, 1KV, Cer. Disc
C967	EP31X78	.1uf, 20%, 50V, Elect.
C990	ET22X151	470pf, 20%, 1KV, HiK, Cer. Disc
C991	EP31X160	3.3uf, +50-10%, 160V, Elect.
C993	EP31X55	100uf, 20%, 10V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X187	100 ohm, 5%, 1/8W, Carbon
R102	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R103	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R104	ES14X57	390 ohm, 5%, 1/8W, Carbon
R105	ES14X56	33 ohm, 5%, 1/8W, Carbon
R107	ES14X59	560 ohm, 5%, 1/8W, Carbon
R108	EP14X133	470K ohm, 5%, 1/8W, Carbon
R109	ES14X58	470 ohm, 5%, 1/8W, Carbon
R111	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
R112	EP14X303	470 ohm, 5%, 1/8W, Carbon
R113	EP14X284	1K ohm, 5%, 1/8W, Carbon
R114	EP14X303	470 ohm, 5%, 1/8W, Carbon
R115	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
R117	Common	220 ohm, 5%, 1/8W, Carbon
R118	Common	9.1K ohm, 5%, 1/8W, Carbon
R119	EP14X119	68K ohm, 5%, 1/8W, Carbon
R121	EP14X125	47K ohm, 5%, 1/8W, Carbon
R122	EP14X182	68 ohm, 5%, 1/8W, Carbon
R123	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
R125	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R126	EP14X184	2.4K ohm, 5%, 1/8W, Carbon
R128	EP14X185	120K ohm, 5%, 1/8W, Carbon
R129	ES14X59	560 ohm, 5%, 1/8W, Carbon
R130	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
R131	EP14X288	18K ohm, 5%, 1/8W, Carbon
R133	ES14X71	1K ohm, 5%, 1/8W, Carbon
R134	Common	120 ohm, 5%, 1/8W, Carbon
R135	Common	220 ohm, 5%, 1/4W, Carbon
R136	EP14X239	750 ohm, 5%, 1/8W, Carbon
R180	ES14X71	1K ohm, 5%, 1/8W, Carbon
R181	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R182	EP14X284	1K ohm, 5%, 1/8W, Carbon
R183	EP14X284	1K ohm, 5%, 1/8W, Carbon
R186	Common	300 ohm, 5%, 1/8W, Carbon
R188	EP14X105	100K ohm, 5%, 1/8W, Carbon
R190	Common	62K ohm, 5%, 1/8W, Carbon
R191	Common	1.6K ohm, 5%, 1/8W, Carbon
* R192	EP14X329	200 ohm, 5%, 1/2W, Carbon Fl. Proof
R193	Common	36K ohm, 5%, 1/4W, Carbon
R194	EP14X103	10K ohm, 5%, 1/8W, Carbon
R195	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R198	EP14X271	8.2K ohm, 5%, 1/8W, Carbon
R200	ES14X69	56 ohm, 5%, 1/8W, Carbon
R202	EP14X285	20K ohm, 5%, 1/8W, Carbon
R204	Common	1.2K ohm, 5%, 1/8W, Carbon
R205	ES14X71	1K ohm, 5%, 1/8W, Carbon
R206	EP14X190	1.8K ohm, 5%, 1/8W, Carbon
R208	EP14X203	22K ohm, 5%, 1/8W, Carbon
R209	EP14X182	68 ohm, 5%, 1/8W, Carbon
R210	Common	200 ohm, 5%, 1/8W, Carbon
R211	EP14X249	4.7K ohm, 5%, 1/8W, Carbon
R212	EP14X284	12K ohm, 5%, 1/8W, Carbon
R213	EP14X271	82K ohm, 5%, 1/8W, Carbon
R216	Common	330 ohm, 5%, 1/8W, Carbon
R218	EP14X283	680 ohm, 5%, 1/8W, Carbon
R220	EP14X189	1.1K ohm, 5%, 1/8W, Carbon
R221	EP14X293	680K ohm, 5%, 1/8W, Carbon
R222	EP14X271	82K ohm, 5%, 1/8W, Carbon
R224	EP14X309	6.8K ohm, 5%, 1/8W, Carbon
R226	ES14X59	560 ohm, 5%, 1/8W, Carbon
R228	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R230	ES14X71	1K ohm, 5%, 1/8W, Carbon
R234	EP14X288	18K ohm, 5%, 1/8W, Carbon
R240	ES14X71	1K ohm, 5%, 1/8W, Carbon
R250	ES14X62	1.5K ohm, 5%, 1/8W, Carbon
R252	EP14X303	22K ohm, 5%, 1/8W, Carbon

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R254	EP14X105	100K ohm, 5%, 1/8W, Carbon
R256	EP14X184	2.4K ohm, 5%, 1/8W, Carbon
R258	EP14X285	15K ohm, 5%, 1/8W, Carbon
R270	EP14X284	10 ohm, 5%, 1/8W, Carbon
R300	Common	36K ohm, 5%, 1/8W, Carbon
R302	EP14X285	15K ohm, 5%, 1/8W, Carbon
R310	EP14X133	470K ohm, 5%, 1/8W, Carbon
R312	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
R316	EP14X128	330 ohm, 5%, 1/8W, Carbon

RESISTORS		
REF. NO.	PART NO.	DESCRIPTION
R932A	Common	120 ohm, 5%, 1/4W, Carbon
R933	Common	220K ohm, 5%, 1/2W, Carbon
* R935	EP14X131	1.5K ohm, 5%, 1/2W, Carbon
* R936	EU13X4	1K ohm, 5%, 1/2W, Carbon
* R937	EP14X287	4.7 ohm, 5%, 1W, Metal Oxide
R939	EP14X187	100 ohm, 5%, 1/2W, Carbon
* R941	EP14X154	22 ohm, 5%, 2W, Metal Oxide
R951	EP14X320	58K ohm, 2%, 1W, Metal Oxide
R952	Common	1.8 meg, ohm, 5%, 1/4W, Carbon
R954	EP14X105	100K ohm, 5%, 1/4W, Carbon
R955	EP14X252	3.9K ohm, 2%, 1/8W, Carbon
R957	EP14X284	1K ohm, 5%, 1/8W, Carbon
R959	EP14X284	1K ohm, 5%, 1/8W, Carbon
R961	ES14X71	1K ohm, 5%, 1/8W, Carbon
R963	Common	220 ohm, 5%, 1/8W, Carbon
R965	Common	6.2K ohm, 5%, 1/8W, Carbon
R969	ES14X56	33 ohm, 5%, 1/2W, Carbon
R971	EP14X128	330 ohm, 5%, 1/2W, Carbon
R973	ES14X56	470 ohm, 5%, 1/2W, Carbon
* R975	EP14X275	1K ohm, 10%, 3W, Wirewound
R981	EP14X318	3 ohm, 10%, 5W, Wirewound
* R983	EP14X321	470 ohm, 5%, 2W, Metal Oxide
R985	Common	240 ohm, 5%, 1/8W, Carbon
R990	EP14X269	20 ohm, 5%, 1/2W, Carbon
R996	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
R998	Common	27K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS		
REF. NO.	PART NO.	DESCRIPTION
R116	EP49X463	PF/AGC, 5K ohm, 20%
R124	EP49X463	IF/AGC, 5K ohm, 20%
R214	EP49X464	Sharpness, 1K ohm, 20%
R262	EP49X462	Brightness, 5K ohm, 20%
R330	EP49X465	AFC, 50K ohm, 20%
R505	EP49X463	Horiz. Hold, 5K ohm, 20%
R619	EP49X466	Vert. Hold, 250 ohm, 20%
R629	EP49X467	Vert. Hold, 10K ohm, 20%
R657	EP49X465	Vert. Centering, 50K ohm, 20%
R953	EP49X468	Reg., 1K ohm, 20%

INTERGRADED CIRCUITS		
REF. NO.	PART NO.	DESCRIPTION
IC101	EP62X167	HVSD-Thick Film
IC190	EP84X213	VIF/Def/AFC
IC190	EP84X216	IF/Sound
IC300	EP84X221	Chroma/Video
IC501	EP84X215	Sync. Sep.
IC901	EP84X217	12V, 3 Ter. Regulator
CF100	EP41X126	Ceramic Filter, 4.5mhz, Audio
CF212	EP41X133	Ceramic Trap, 3.3mhz
SF101	EP41X123	Wave Filter
X300	EP41X10	Crystal-Quartz

TRANSISTORS		
REF. NO.	PART NO.	DESCRIPTION
SCR903	EP15X217	SCR Regulator, PNP
Q105	FP15X104	Pre Amp, HF, Bipolar
Q110	EP15X87	Video Emitter Follower NPN, Silicon
Q190	EP15X19	Audio Output, NPN, Silicon
Q192	EP15X19	Audio Output, NPN, Silicon
Q200	EP15X88	Regulator, NPN, Silicon
Q202	EP15X48	Beam Limiter, PNP, Silicon
Q204	EP15X88	Video Amp, NPN, Silicon
Q206	EP15X83	Emitter Follower, NPN, Silicon
Q207	EP15X57	Video Amp, PNP, Silicon
Q300	EP15X88	Burst Gate, NPN, Silicon
Q501	EP15X48	Noise Canceller, PNP, Silicon
Q601	EP15X105	Vertical Output, NPN, Silicon
Q603	EP15X105	Vertical Driver, NPN, Silicon
Q701	EP15X19	Horizontal Driver, NPN, Silicon
Q901	EP15X88	Error Amp, NPN, Silicon
Q903	EP15X91	Regulator Control, NPN, Silicon
Q905	EP15X57	Regulator Trigger, PNP, Silicon

DIODES		
REF. NO.	PART NO.	DESCRIPTION
Y190	EP57X4	Rectifier, Silicon
Y192	EP57X4	Rectifier, Silicon
Y194	EP16X58	17 Volt, Zener
Y202	ES16X27	Silicon
Y204	ES16X27	Silicon
Y206	ES16X27	Silicon
Y300	EP16X147	Schoolle,
Y350	EP16X58	17 Volt, Zener
Y352	EP16X58	17 Volt, Zener

DIODES		
REF. NO.	PART NO.	DESCRIPTION
Y354	EP16X58	17 Volt, Zener
Y370	ES16X27	Silicon
Y382	ES16X27	Silicon
Y501	ES16X27	Silicon
Y503	ES16X27	Silicon
Y601	ES16X27	Silicon
Y603	EP57X4	Rectifier, Silicon
Y605	EP57X4	Rectifier, Silicon
Y607	EP57X4	Rectifier, Silicon
Y609	EP57X4	Rectifier, Silicon
Y901	EP57X4	Rectifier, Silicon
Y903	EP57X4	Rectifier, Silicon
Y905	EP57X4	Rectifier, Silicon
Y907	EP57X4	Rectifier, Silicon
Y921	EP16X149	Rectifier, Fast Recovery
Y923	EP57X5	Rectifier, Silicon
Y925	EP57X5	Rectifier, Silicon
Y931	EU16X11	Silicon
Y932	EU16X11	Silicon
Y951	EP16X19	5.6 Volt, Zener
Y954	ES16X27	Silicon
Y955	EP57X5	Rectifier, Silicon
* Y957	EP16X148	36 Volt, Zener
* Y958	EP16X148	36 Volt, Zener
Y959	ES16X27	Silicon
Y961	ES16X27	Silicon
Y963	EP16X154	Rectifier, Silicon
Y963A	EP16X154	Rectifier, Silicon
Y965	EU16X11	Silicon
Y990	ES16X27	Silicon
Y991	EP57X4	Silicon
Y992	EP57X5	Rectifier, Silicon

COILS AND TRANSFORMERS		
REF. NO.	PART NO.	DESCRIPTION
L101	EP36X442	CHOKE-.82uh, 10%
L102	EP36X442	CHOKE-.82uh, 10%
L103	EP36X442	CHOKE-.82uh, 10%
L104	EP36X4	CHOKE-.9.2uh
L105	EP36X312	COIL-4.5mc, Trap
L106	EP36X433	COIL-4.5.75mhz, Molded
L107	EP36X433	COIL-4.5.75mhz, Molded
L108	EP36X434	COIL-IF 6 41.25mhz, Trap
L180	EP36X144	CHOKE-27uh, 5%
L190	EP36X435	COIL-Quad.
L196	ES36X82	CHOKE-220uh, 20%
L200	EP36X314	CHOKE-30uh, 10%
L204	EP36X17	CHOKE-150uh, 10%
L220	EP36X439	COIL-Delay Line
L236	EP36X136	CHOKE-15uh, 10%
L259	EP36X442	CHOKE-.82uh, 20%
L300	EP36X23	CHOKE-12uh, 5%
L320	EP36X33	CHOKE-56uh, 5%
L321	EP36X33	CHOKE-56uh, 5%
L372	EP36X33	CHOKE-56uh, 5%
* L703	EP36X437	CHOKE-Filament, H.V. Tuning
* L901	EP36X440	COIL-Line Choke Filter
* L909	EP36X441	CHOKE-3mh, Regulator
L921	EP36X136	CHOKE-15uh, 5%
L929	EP36X437	CHOKE-Filament, H.V. Tuning
T192	EP64X58	TRANSFORMER-Audio Output
* T701	EP77X56	TRANSFORMER-H.V.
* T703	EP64X57	TRANSFORMER-Buffer

<u>MISCELLANEOUS</u>		
REF NO.	PART NO.	DESCRIPTION
	EP8X36	ANODE-CRT Cap
	EP2X539	BRACKET-HVT Support, Plastic
	EP3X7	CLIP-Fuse, F901/F903
+	EP66X19	CORD-AC Power Polarized Wired-In-Type
F8206	EP12X4	FERRITE BEAD
F8921	EP12X8	FERRITE BEAD
F8963	EP12X8	FERRITE BEAD
F8963A	EP12X8	FERRITE BEAD
* F901	EP10X19	FUSE-4amp, 250V, Snap-In, Fast Acting
* F903	EP10X27	FUSE-1.25amp, 250V, Snap- In, Fast Acting
	EP3X38	WASHER-Shoulder, SCR 903 Q601 Q603

RGB CIRCUIT BOARD

CAPACITORS		
REF. NO.	PART NO.	DESCRIPTION
C403	EU22X216	.01uf, 20%, 500V, HiK, Cer. Disc
C404	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C406	EP18X81	1000pf, 20%, 50V, HiK, Cer. Disc
C408	EP18X180	820pf, 20%, 50V, HiK, Cer. Disc
C490	EP18X267	4700pf, 20%, 2KV, SHiK, Cer. Disc

RESISTORS		
REF. NO.	PART NO.	DESCRIPTION
R403	EP14X103	10K ohm, 5%, 1/8W, Carbon
R404	EP14X289	430 ohm, 5%, 1/8W, Carbon
R405	ES14X59	560 ohm, 5%, 1/8W, Carbon
R411	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R413	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R414	EP14X128	330 ohm, 5%, 1/8W, Carbon
R415	EP14X183	3.3K ohm, 5%, 1/2W, Carbon
R416	EP14X128	330 ohm, 5%, 1/8W, Carbon
R417	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R418	EP14X128	330 ohm, 5%, 1/8W, Carbon
R424	EP14X187	100 ohm, 5%, 1/8W, Carbon
R426	EP14X187	100 ohm, 5%, 1/8W, Carbon
R428	ES14X70	100 ohm, 5%, 1/8W, Carbon
R430	Common	1 meg ohm, 5%, 1/4W, Carbon
R434	Common	200 ohm, 5%, 1/8W, Carbon
R436	Common	200 ohm, 5%, 1/8W, Carbon
R438	Common	200 ohm, 5%, 1/8W, Carbon
R454	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R456	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R458	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
R464	ES14X64	2K ohm, 5%, 1/8W, Carbon
R466	ES14X64	2K ohm, 5%, 1/8W, Carbon
R468	ES14X64	2K ohm, 5%, 1/8W, Carbon
* R484	EP14X231	12K ohm, 5%, 2W, Metal Oxide
* R486	EP14X231	12K ohm, 5%, 2W, Metal Oxide
* R488	EP14X231	12K ohm, 5%, 2W, Metal Oxide

POTENTIOMETERS		
REF. NO.	PART NO.	DESCRIPTION
R444	EP49X469	150 ohm, 20%
R446	EP49X469	150 ohm, 20%
R448	EP49X469	150 ohm, 20%
R474	EP49X470	5K ohm, 20%
R476	EP49X470	5K ohm, 20%
R478	EP49X470	5K ohm, 20%

TRANSISTORS		
REF. NO.	PART NO.	DESCRIPTION
Q404	EP15X61	Red Amp, NPN, Silicon
Q406	EP15X61	Green Amp, NPN, Silicon
Q408	EP15X61	Blue Amp, NPN, Silicon

COIL		
REF. NO.	PART NO.	DESCRIPTION
L403	ES36X82	CHOKE-220uh, 10%

MISCELLANEOUS		
REF. NO.	PART NO.	DESCRIPTION
RL4	EP8X91	CONNECTOR-8 Pos
RL5	EP8X68	CONNECTOR-2 Pos
	EP34X65	SOCKET-CRT

HORIZONTAL HEAT SINK CIRCUIT BOARD

CAPACITORS		
REF. NO.	PART NO.	DESCRIPTION
C1901	ES18X13	330pf, 20%, 2.5V, Cer. Disc
* C1903	EP25X145	.011uf, 5%, 1.5KV, Polyester
* C1904	EP25X152	.1uf, 10%, 200V, Polypropylene
* C1905	EP25X91	.47uf, 10%, 400V, Polyester
C1907	EP18X207	330pf, 20%, 500V, Cer. Disc
C1915	EP25X151	2700pf, 10%, 200V, Mylar

RESISTORS		
REF. NO.	PART NO.	DESCRIPTION
* R1901	EP14X322	100 ohm, 10%, 5W, Wirewound
R1911	EP14X128	330 ohm, 5%, 1/2W, Carbon

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
T1903	EP57X5	Rectifier, Silicon
T1905	EP57X5	Rectifier, Silicon
T1907	EP57X5	Rectifier, Silicon

COILS

REF. NO.	PART NO.	DESCRIPTION
* L1901	EP36X443	COIL-Width
L1903	EP36X536	CHOKE-3.6uh, 10%
* L1905	EP36X444	COIL-Pincushion Asm

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
EL12	EP8X30	CONNECTOR-1 Pin
F1901	EP12X2	FERRITE-Bead
F1903	EP12X2	FERRITE-Bead
L1903	EP49X160	HORIZ. CENTERING
	EP3X52	SPACER-Q1901

VIR CIRCUIT BOARD

CAPACITORS		
REF. NO.	PART NO.	DESCRIPTION
CT11	EP25X67	.047uf, 20%, 50V, Polyester
CT12	EP18X204	470pf, 10%, 50V, Cer. Disc
CT13	EP25X67	.047uf, 20%, 50V, Polyester
CT14	EP18X198	2200pf, 30%, 25V, Cer. Disc
CT15	EP31X15	10uf, 10%, 16V, Elect.
CT16	EP25X67	.047uf, 20%, 50V, Polyester
CT17	EP18X67	.047uf, 20%, 50V, Polyester
CT18	EP18X204	470pf, 10%, 50V, Cer. Disc
CT19	EP18X194	100pf, 10%, 50V, SHiK, Cer. Di
CT20	EP31X15	47uf, 10%, 25V, Elect.
CT21	EP18X197	1000pf, 20%, 50V, Cer. Disc
CT22	EP25X67	.047uf, 20%, 50V, Polyester
CT23	EP31X141	220uf, 10%, 16V, Elect.
CT24	EP18X169	1000pf, 30%, 25V, Cer. Disc
CT25	EP31X15	47uf, 10%, 16V, Elect.
CT26	EP18X67	.047uf, 20%, 50V, Polyester
CT27	EP25X67	.047uf, 20%, 50V, Polyester
CT28	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CT29	EP25X67	.047uf, 20%, 50V, Polyester
CT30	EP25X67	.047uf, 20%, 50V, Polyester
CT31	EP31X15	10uf, 10%, 10V, Elect.
CT32	EP31X15	47uf, 10%, 16V, Elect.
CT33	EP25X67	.047uf, 20%, 50V, Polyester
CT34	EP18X271	1200pf, 20%, 50V, HiK, Cer. Disc
CT35	EP18X197	.047uf, 20%, 50V, Polyester
CT36	EP18X194	100pf, 10%, 50V, SHiK, Cer. Disc
CT37	EP18X169	1000pf, 30%, 25V, Cer. Disc
CT38	EP18X204	470pf, 10%, 50V, Cer. Disc
CT39	EP18X214	.023uf, 20%, 500V, Cer. Disc

<u>RESISTORS</u>		
REF. NO.	PART NO.	DESCRIPTION
EP10	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
EP11	ES14X71	1K ohm, 5%, 1/8W, Carbon
EP12	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
EP13	ES14X71	1K ohm, 5%, 1/8W, Carbon
EP14	EP14X262	3.9K ohm, 5%, 1/8W, Carbon
EP15	ES14X71	1K ohm, 5%, 1/8W, Carbon
EP17	ES14X71	1K ohm, 5%, 1/8W, Carbon
EP18	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
EP19	EP14X334	2.7K ohm, 5%, 1/8W, Carbon
EP20	EP14X183	3.3K ohm, 5%, 1/8W, Carbon
EP21	EP14X225	4.7K ohm, 5%, 1/8W, Carbon
EP22	EP14X183	4.7K ohm, 5%, 1/8W, Carbon
EP23	ES14X71	1K ohm, 5%, 1/8W, Carbon
EP24	EP14X183	2.2K ohm, 5%, 1/8W, Carbon
EP25	ES14X65	4.7K ohm, 5%, 1/8W, Carbon
EP26	EP14X183	4.7K ohm, 5%, 1/8W, Carbon
EP27	ES14X71	1K ohm, 5%, 1/4W, Carbon
EP28	EP14X183	4.7K ohm, 5%, 1/8W, Carbon
EP29	EP14X183	10K ohm, 5%, 1/8W, Carbon
EP30	EP14X262	18K ohm, 5%, 1/8W, Carbon
EP31	EP14X183	10K ohm, 5%, 1/8W, Carbon
EP32	EP14X140	330K ohm, 5%, 1/8W, Carbon

LMP91 TUNING SYSTEM

PRINTED CIRCUIT BOARD ASSEMBLIES

REF. NO.	PART NO.	DESCRIPTION
M-A	EP93X231	Phase Lock Loop/Wide Band Amp. Module
M-D	EP93X279	LMP91 Control Module
M-E	76-5-1901	LMP91 Remote Transmitter
M-G	EP93X225	Remote Receiver
M-K	EP93X226	Readout Interface Board
	EP93X334	VHF/UHF Tuner
	EP93X383	LMP-91 Audio Interface Module

PARTS NOT ON MODULES

REF. NO.	PART NO.	DESCRIPTION
RESISTORS		
R128	EP14X48	10 ohm, 5%, 2W, Metal Oxide
R129	ES14X58	470 ohm, 5%, 1/4W, Carbon
R130	EP14X105	100K ohm, 5%, 1/4W, Carbon
TRANSISTOR		
Q100	ES15X125	NPN, Silicon
DIODES		
Y129	EP16X155	Zener
Y130	EP57X5	Rectifier
MISCELLANEOUS		
	EP2X313	BRACKET - Readout Bd., Mounting, Plastic
	EP92X89	BRACKET - LMP-91 Controls Mounting, Plastic
	EP92X90	BRACKET - LMP-91 Support for Main Bracket
	EP8X97	CABLE - PLL/WBA to VHF
	EP8X103	CABLE - PLL/WBA to UHF
	EP41X60	CHANNEL NUMBER READOUT DISPLAY - Red
RL3	EP8X71	CONNECTOR - 6 Pos.
RL10	EP8X94	CONNECTOR - 4 Pos.
RL222	EP8X91	CONNECTOR - 8 Pos.
RL232	EP8X90	CONNECTOR - 3 Pins.
R247	EP8X92	CONNECTOR - 8 Pos.
	EP2X316	GROMMET - Transformer Screw
	EP62X135	KEYBOARD - On/Off, Vol., & Channel Select
	EP41X56	RELAY
	EP88X30	TRANSFORMER - LMP-91

PHASE LOCK LOOP

WIDE BAND AMP BOARD (M-A)

EP93X231

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
AC02	EP18X169	.01uf, 30%, 25V, Cer. Disc
AC03	EP18X144	1000pf, 50V, No Leads
AC04	EP18X144	1000pf, 50V, No Leads
AC05	ES18X43	.01uf, 20%, 50V, Cer. Disc
AC06	EP18X219	30pf, 5%, 50V, Cer. Disc
AC07	EP18X169	.01uf, 30%, 25V, Cer. Disc
AC08	EP31X60	470uf, 16V, Electrolytic
AC11	EP18X189	.01uf, 30%, 25V, Cer. Disc

AC12	EP18X191	68pf, 5%, 50V, Cer. Disc
AC13	EP18X197	1000pf, 20%, 50V, Cer. Disc
AC14	EP18X171	6.8pf, 10%, 50V, Cer. Disc
AC15	EP30X3	2pf to 6pf, 50V, Trimmer
AC16	EP18X197	1000pf, 20%, 50V, Cer. Disc
AC17	EP18X197	1000pf, 20%, 50V, Cer. Disc
AC18	EP18X169	.01uf, 30%, 25V, Cer. Disc
AC19	EP18X169	.01uf, 30%, 25V, Cer. Disc
AC20	EP18X169	.01uf, 30%, 25V, Cer. Disc
AC28	EP18X197	1000pf, 10%, 50V, Cer. Disc
AC29	EP31X39	2.2uf, 20%, 25V, Electrolytic
AC30	EP18X118	.1uf, 25V, Cer. Disc
AC31	EP18X118	.1uf, 25V, Cer. Disc
AC32	EP31X71	.22uf, 20%, 25V, Electrolytic Dry Alum.
AC34	EP31X16	1uf, 50V, Electrolytic
AC35	EP31X45	47uf, 10V, Electrolytic
AC36	EU23X4	1000pf, 500V, Feed Thru
AC39	EP21X6	.047uf, 20%, 50V, Mylar
AC40	EP18X167	.047uf, 50V, Cer. Disc

RESISTORS

AR01	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
AR03	EP14X281	24 ohm, 5%, 1W, Metal Oxide
AR04	EP14X188	15 ohm, 5%, 1/4W, Carbon
AR05	ES14X59	680 ohm, 5%, 1/4W, Carbon
AR06	Common	91 ohm, 5%, 1/4W, Carbon
AR07	Common	11K ohm, 5%, 1/4W, Carbon
AR08	EP14X104	22K ohm, 5%, 1/4W, Carbon
AR13	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
AR14	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR15	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR16	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR17	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR18	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
AR19	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
AR20	EP14X136	33K ohm, 5%, 1/4W, Carbon
AR21	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
AR22	Common	75K ohm, 5%, 1/4W, Carbon
AR23	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
AR24	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR25	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
AR27	Common	43 ohm, 5%, 1/4W, Carbon
AR28	Common	24K ohm, 5%, 1/4W, Carbon
AR30	ES14X64	2K ohm, 5%, 1/4W, Carbon
AR31	Common	430 ohm, 5%, 1/4W, Carbon
AR32	Common	430 ohm, 5%, 1/4W, Carbon
AR34	Common	9.1K ohm, 5%, 1/4W, Carbon
AR35	EP14X126	47K ohm, 5%, 1/4W, Carbon
AR36	EP14X125	47K ohm, 5%, 1/4W, Carbon
AR39	EP14X196	180K ohm, 5%, 1/4W, Carbon
AR40	Common	43 ohm, 5%, 1/4W, Carbon

DIODES

AY01	EP16X25	Zener, 1W
AY02	EP16X12	Zener, 1W

CRYSTALS

AX01	EP41X68	Crystal—Filter
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CHOKE

AL01	ES36X28	Filament
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INTEGRATED CIRCUITS

AIC01	EP84X113	256 W/Pre Amp
AIC02	EP84X114	Serial Input PLL Freq. Syn.

TRANSISTORS

AQ05	EP15X104	High Frequency, VHF
AQ15	EP15X88	NPN, Inverter
AQ20	EP15X88	NPN, Integrator, Phase Lock
AQ25	EP15X88	NPN, Integrator, Phase Lock
AQ30	EP15X88	NPN, Integrator, Phase Lock
AQ35	EP15X88	NPN, Integrator, Phase Lock
AQ40	EP15X89	NPN, Integrator, Phase Lock

MISCELLANEOUS

RL243	EP8X92	CONNECTOR - 10 Pos.
	EP8X32	JACK - Phone
	EP34X52	SOCKET - IC02

LMP91 CONTROL MODULE (M-D)

EP93X279

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
DC01	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC02	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC03	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC04	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC05	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC06	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC07	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC08	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC09	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC10	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC11	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC12	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC13	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC14	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC15	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC20	EP25X87	.047uf, 20%, 50V, Polyester
DC21	EP18X140	680pf, 5%, 50V, Cer. Disc
DC22	EP18X158	820pf, 5%, 50V, Cer. Disc
DC23	EP18X140	680pf, 5%, 50V, Cer. Disc
DC24	EP18X158	820pf, 5%, 50V, Cer. Disc
DC25	EP25X87	.047uf, 20%, 50V, Polyester
DC26	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC28	EP18X194	100pf, 5%, 50V, Cer. Disc
DC30	EP31X80	2.2uf, 50V, Electrolytic
DC31	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC40	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC41	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC42	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC43	EP18X206	.022uf, 30%, 50V, Cer. Disc
DC44	EP18X167	.047uf, +80%—20%, 50V, Cer. Disc
DC45	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC46	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC47	EP18X216	4700pf, 30%, 25V, Cer. Disc
DC48	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC49	EP18X216	4700pf, 30%, 25V, Cer. Disc
DC50	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC51	EP18X216	4700pf, 30%, 25V, Cer. Disc
DC52	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC53	EP18X216	4700pf, 30%, 25V, Cer. Disc
DC54	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC55	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC56	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC57	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC60	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC61	EP31X35	10uf, 35V, Electrolytic
DC63	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC64	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC65	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC66	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC67	EP25X87	.047uf, 20%, 50V, Polyester
DC68	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC69	EP31X45	47uf, 25V, Electrolytic
DC70	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC71	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC72	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC74	EP25X87	.047uf, 20%, 50V, Polyester
DC76	EP25X87	.047uf, 20%, 50V, Polyester
DC90	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC91	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC92	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC94	EP31X11	4.7uf, 35V, Electrolytic
DC95	EP18X81	1000pf, 20%, 50V, Cer. Disc
DC96	EP18X81	1000pf, 20%, 50V, Cer. Disc
DC98	EP31X59	470uf, 25V, Electrolytic
DC99	EP31X44	22uf, 16V, Electrolytic
DC100	EP25X87	.047uf, 20%, 50V, Polyester
DC101	EP31X45	47uf, 16V, Electrolytic

DC102	EP25X87	.047uf, 20%, 50V, Polyester	DR100	ES14X
DC103	EP25X87	.047uf, 20%, 50V, Polyester	DR104	Commo
DC104	EP25X87	.047uf, 20%, 50V, Polyester	DR108	Commo
			DR112	Commo
			DR116	Commo
RESISTORS				
DR01	EP14X187	100 ohm, 5%, 1/4W, Carbon	DR93	EP49X1
DR02	EP14X103	10K ohm, 5%, 1/4W, Carbon		
DR03	EP14X125	47K ohm, 5%, 1/4W, Carbon	DT21	EP35X
DR04	EP14X103	10K ohm, 5%, 1/4W, Carbon	DT22	EP36X
DR05	EP14X103	10K ohm, 5%, 1/4W, Carbon	DT23	EP36X
DR06	EP14X103	10K ohm, 5%, 1/4W, Carbon	DT24	EP36X
DR07	EP14X125	47K ohm, 5%, 1/4W, Carbon		
DR08	EP14X103	10K ohm, 5%, 1/4W, Carbon		
DR09	EP14X103	10K ohm, 5%, 1/4W, Carbon		
DR10	EP14X103	10K ohm, 5%, 1/4W, Carbon	DY05	ES16X2
DR11	EP14X125	47K ohm, 5%, 1/4W, Carbon	DY06	ES16X2
DR12	EP14X103	10K ohm, 5%, 1/4W, Carbon	DY07	ES16X2
DR13	EP14X103	10K ohm, 5%, 1/4W, Carbon	DY08	ES16X2
DR14	EP14X103	10K ohm, 5%, 1/4W, Carbon	DY12	ES16X2
DR15	EP14X125	47K ohm, 5%, 1/4W, Carbon	DY13	ES16X2
DR16	EP14X103	10K ohm, 5%, 1/4W, Carbon	DY21	ES16X2
DR23	ES14X65	4.7K ohm, 5%, 1/4W, Carbon	DY22	ES16X2
DR24	EP14X103	10K ohm, 5%, 1/4W, Carbon	DY23	ES16X2
DR25	EP14X103	10K ohm, 5%, 1/4W, Carbon	DY24	ES16X2
DR26	Common	270 ohm, 5%, 1/4W, Carbon	DY29	ES16X2
DR28	Common	43K ohm, 5%, 1/4W, Carbon	DY30	ES16X2
DR30	EP14X125	47K ohm, 5%, 1/4W, Carbon	DY31	ES16X2
DR31	EP14X103	10K ohm, 5%, 1/4W, Carbon	DY61	EP16X3
DR40	ES14X65	4.7K ohm, 5%, 1/4W, Carbon	DY75	ES16X2
DR41	EP14X103	10K ohm, 5%, 1/4W, Carbon	DY88	ES16X2
DR42	ES14X65	4.7K ohm, 5%, 1/4W, Carbon	DY90	ES16X2
DR43	EP14X103	10K ohm, 5%, 1/4W, Carbon	DY94	ES16X2
DR44	ES14X65	4.7K ohm, 5%, 1/4W, Carbon	DY95	EP57X4
DR45	EP14X103	10K ohm, 5%, 1/4W, Carbon	DY96	EP57X4
DR46	EP14X243	2.2K ohm, 5%, 1/4W, Carbon	DY97	ES16X2
DR47	EP14X103	10K ohm, 5%, 1/4W, Carbon	DY98	EP16X7
DR48	EP14X243	2.2K ohm, 5%, 1/4W, Carbon	DY99	ES16X2
DR49	EP14X103	10K ohm, 5%, 1/4W, Carbon		
DR50	EP14X243	2.2K ohm, 5%, 1/4W, Carbon		
DR51	EP14X103	10K ohm, 5%, 1/4W, Carbon		
DR52	EP14X243	2.2K ohm, 5%, 1/4W, Carbon	DIC35	EP84X11
DR53	EP14X103	10K ohm, 5%, 1/4W, Carbon		
DR54	EP14X243	2.2K ohm, 5%, 1/4W, Carbon		
DR55	EP14X103	10K ohm, 5%, 1/4W, Carbon		
DR56	EP14X243	2.2K ohm, 5%, 1/4W, Carbon	DQ04	EP15X12
DR57	EP14X103	10K ohm, 5%, 1/4W, Carbon	DQ08	EP15X12
DR60	Common	3.9K ohm, 5%, 1/4W, Carbon	DQ12	EP15X12
DR61	Common	1.2K ohm, 5%, 1/4W, Carbon	DQ16	EP15X12
DR63	EP14X103	10K ohm, 5%, 1/4W, Carbon	DQ21	EP15X88
DR64	EP14X104	22K ohm, 5%, 1/4W, Carbon	DQ22	EP15X88
DR65	EP14X136	33K ohm, 5%, 1/4W, Carbon	DQ23	EP15X88
DR66	Common	100K ohm, 5%, 1/4W, Carbon	DQ24	EP15X88
DR67	Common	100K ohm, 5%, 1/4W, Carbon	DQ25	EP15X88
DR70	EP14X103	10K ohm, 5%, 1/4W, Carbon	DQ30	EP15X12
DR71	EP14X104	22K ohm, 5%, 1/4W, Carbon	DQ65	EP15X88
DR72	EP14X104	22K ohm, 5%, 1/4W, Carbon	DQ67	EP15X57
DR73	Common	100K ohm, 5%, 1/4W, Carbon	DQ72	EP15X88
DR74	Common	15K ohm, 5%, 1/4W, Carbon	DQ74	EP15X53
DR75	Common	27K ohm, 5%, 1/4W, Carbon	DQ76	EP15X53
DR76	EP14X125	47K ohm, 5%, 1/4W, Carbon	DQ90	EP15X89
DR78	EP14X123	39K ohm, 5%, 2W, Carbon	DQ92	EP15X88
DR79	EP14X125	47K ohm, 5%, 1/4W, Carbon	DQ94	EP15X12
DR80	Common	240K ohm, 5%, 1/4W, Carbon	DQ99	ES15X12
DR81	EP14X119	68K ohm, 5%, 1/4W, Carbon		
DR82	EP14X271	82K ohm, 2%, 1/4W, Carbon		
DR83	EP14X119	68K ohm, 5%, 1/4W, Carbon		
DR84	EP14X271	33K ohm, 2%, 1/4W, Carbon		
DR86	EP14X271	16K ohm, 2%, 1/4W, Carbon	RL242	Not Avail
DR87	EP14X271	8.2K ohm, 2%, 1/4W, Carbon	RL251	Not Avail
DR88	Common	7.5K ohm, 5%, 1/4W, Carbon	RL231	Not Avail
DR89	EP14X271	8.2K ohm, 2%, 1/4W, Carbon	RL225	Not Avail
DR90	Common	160 ohm, 5%, 1/4W, Carbon	RL244	Not Avail
DR92	ES14X71	1K ohm, 5%, 1/4W, Carbon	RL245	Not Avail
DR94	EP14X187	100 ohm, 5%, 1/4W, Carbon	RL250	Not Avail
DR99	ES14Y58	470 ohm, 5%, 1/4W, Carbon		

G SYSTEM

BOARD ASSEMBLIES

DESCRIPTION

Phase Lock Loop/Wide Band
Amp. Module
LMP91 Control Module
LMP91 Remote Transmitter
Remote Receiver
Readout Interface Board
VHF/UHF Tuner
LMP-91 Audio Interface Module

ON MODULES

DESCRIPTION

ISTORS

10 ohm, 5%, 2W, Metal Oxide
470 ohm, 5%, 1/4W, Carbon
100K ohm 5%, 1/4W, Carbon

ISISTOR

NPN, Silicon

ODES

Zener
Rectifier

LANEOUS

BRACKET - Readout Bd., Mounting,
Plastic
BRACKET - LMP-91 Controls
Mounting, Plastic
BRACKET - LMP-91 Support for
Main Bracket
CABLE - PLL/WBA to VHF
CABLE - PLL/WBA to UHF
CHANNEL NUMBER READOUT
DISPLAY - Red
CONNECTOR - 6 Pos.
CONNECTOR - 4 Pos.
CONNECTOR - 8 Pos.
CONNECTOR - 3 Pins.
CONNECTOR - 8 Pos.
GROMMET - Transformer Screw
KEYBOARD - On/Off, Vol., &
Channel Select
RELAY
TRANSFORMER - LMP-91

OCK LOOP
1P BOARD (M-A)

IX231

ITORS

DESCRIPTION

.01uf, 30%, 25V, Cer. Disc
1000pf, 50V, No Leads
1000pf, 50V, No Leads
.01uf, 20%, 50V, Cer. Disc
30pf, 5%, 50V, Cer. Disc
.01uf, 30%, 25V, Cer. Disc
470uf, 16V, Electrolytic
.01uf, 30%, 25V, Cer. Disc

AC12	EP18X191	68pf, 5%, 50V, Cer. Disc
AC13	EP18X197	1000pf, 20%, 50V, Cer. Disc
AC14	EP18X171	6.8pf, 10%, 50V, Cer. Disc
AC15	EP30X3	2pf to 5pf, 50V, Trimmer
AC16	EP18X197	1000pf, 20%, 50V, Cer. Disc
AC17	EP18X197	1000pf, 20%, 50V, Cer. Disc
AC18	EP18X189	.01uf, 30%, 25V, Cer. Disc
AC19	EP18X189	.01uf, 30%, 25V, Cer. Disc
AC20	EP18X169	.01uf, 30%, 25V, Cer. Disc
AC28	EP18X197	1000pf, 10%, 50V, Cer. Disc
AC29	EP31X39	2.2uf, 20%, 25V, Electrolytic
AC30	EP18X118	.1uf, 25V, Cer. Disc
AC31	EP18X118	.1uf, 25V, Cer. Disc
AC32	EP31X71	.22uf, 20%, 25V, Electrolytic Dry Alum.

AC34	EP31X16	1uf, 50V, Electrolytic
AC35	EP31X45	47uf, 10V, Electrolytic
AC36	EU23X4	1000pf, 500V, Feed Thru
AC38	EP21X6	.047uf, 20%, 50V, Mylar
AC40	EP18X167	.047uf, 50V, Cer. Disc

RESISTORS

AR01	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
AR03	EP14X281	24 ohm, 5%, 1W, Metal Oxide
AR04	EP14X188	15 ohm, 5%, 1/4W, Carbon
AR05	ES14X58	560 ohm, 5%, 1/4W, Carbon
AR06	Common	91 ohm, 5%, 1/4W, Carbon
AR07	Common	11K ohm, 5%, 1/4W, Carbon
AR08	EP14X104	22K ohm, 5%, 1/4W, Carbon
AR13	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
AR14	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR15	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR16	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR17	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR18	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
AR19	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
AR20	EP14X136	33K ohm, 5%, 1/4W, Carbon
AR21	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
AR22	Common	75K ohm, 5%, 1/4W, Carbon
AR23	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
AR24	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR25	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
AR27	Common	43 ohm, 5%, 1/4W, Carbon
AR28	Common	24K ohm, 5%, 1/4W, Carbon
AR30	ES14X64	2K ohm, 5%, 1/4W, Carbon
AR31	Common	430 ohm, 5%, 1/4W, Carbon
AR32	Common	430 ohm, 5%, 1/4W, Carbon
AR34	Common	9.1K ohm, 5%, 1/4W, Carbon
AR35	EP14X125	47K ohm, 5%, 1/4W, Carbon
AR36	EP14X125	47K ohm, 5%, 1/4W, Carbon
AR39	EP14X196	180K ohm, 5%, 1/4W, Carbon
AR40	Common	43 ohm, 5%, 1/4W, Carbon

DIODES

AY01	EP16X25	Zener, 1W
AY02	EP16X12	Zener, 1W

CRYSTALS

AX01	EP41X68	Crystal—Filter
AL01	ES38X28	Filement

INTEGRATED CIRCUITS

AIC01	EP84X113	256 W/Pre Amp
AIC02	EP84X114	Serial Input PLL Freq. Syn.

TRANSISTORS

AQ05	EP15X104	High Frequency, VHF
AQ15	EP15X88	NPN, Inverter
AQ20	EP15X88	NPN, Integrator, Phase Lock
AQ25	EP15X88	NPN, Integrator, Phase Lock
AQ30	EP15X88	NPN, Integrator, Phase Lock
AQ35	EP15X88	NPN, Integrator, Phase Lock
AQ40	EP15X89	NPN, Integrator, Phase Lock

MISCELLANEOUS

RL243	EP8X92	CONNECTOR - 10 Pos.
	EP8X32	JACK - Phone
	EP34X52	SOCKET - IC02

LMP91 CONTROL MODULE (M-D)

EP93X279

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
DC01	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC02	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC03	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC04	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC05	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC06	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC07	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC08	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC09	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC10	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC11	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC12	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC13	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC14	EP18X197	1000pf, 10%, 50V, Cer. Disc
DC15	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC20	EP25X87	.047uf, 20%, 50V, Polyester
DC21	EP18X140	680pf, 5%, 50V, Cer. Disc
DC22	EP18X158	820pf, 5%, 50V, Cer. Disc
DC23	EP18X140	680pf, 5%, 50V, Cer. Disc
DC24	EP18X158	820pf, 5%, 50V, Cer. Disc
DC25	EP25X87	.047uf, 20%, 50V, Polyester
DC26	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC28	EP18X194	100pf, 5%, 50V, Cer. Disc
DC30	EP31X80	2.2uf, 50V, Electrolytic
DC31	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC40	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC41	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC42	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC43	EP18X206	.022uf, 30%, 50V, Cer. Disc
DC44	EP18X167	.047uf, +80V—20%, 50V, Cer. Disc
DC45	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC46	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC47	EP18X216	4700pf, 30%, 25V, Cer. Disc
DC48	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC49	EP18X216	4700pf, 30%, 25V, Cer. Disc
DC50	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC51	EP18X216	4700pf, 30%, 25V, Cer. Disc
DC52	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC53	EP18X216	4700pf, 30%, 25V, Cer. Disc
DC54	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC55	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC56	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC57	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC60	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC61	EP31X35	10uf, 35V, Electrolytic
DC63	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC64	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC65	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC66	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC67	EP25X87	.047uf, 20%, 50V, Polyester
DC68	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC69	EP31X45	47uf, 25V, Electrolytic
DC70	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC71	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC72	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC74	EP25X87	.047uf, 20%, 50V, Polyester
DC76	EP25X87	.047uf, 20%, 50V, Polyester
DC90	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC91	ES18X43	.01uf, 20%, 50V, Cer. Disc
DC92	EP18X206	.022uf, 30%, 25V, Cer. Disc
DC94	EP31X11	4.7uf, 35V, Electrolytic
DC95	EP18X81	1000pf, 20%, 50V, Cer. Disc
DC96	EP18X81	1000pf, 20%, 50V, Cer. Disc
DC98	EP31X59	470uf, 25V, Electrolytic
DC99	EP31X44	22uf, 16V, Electrolytic
DC100	EP25X87	.047uf, 20%, 50V, Polyester
DC101	EP31X45	47uf, 16V, Electrolytic

DC102	EP25X87	.047uf, 20%, 50V, Polyester
DC103	EP25X87	.047uf, 20%, 50V, Polyester
DC104	EP25X87	.047uf, 20%, 50V, Polyester

RESISTORS

DR01	EP14X187	100 ohm, 5%, 1/4W, Carbon
DR02	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR03	EP14X125	47K ohm, 5%, 1/4W, Carbon
DR04	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR05	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR06	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR07	EP14X125	47K ohm, 5%, 1/4W, Carbon
DR08	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR09	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR10	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR11	EP14X125	47K ohm, 5%, 1/4W, Carbon
DR12	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR13	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR14	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR15	EP14X125	47K ohm, 5%, 1/4W, Carbon
DR16	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR23	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
DR24	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR25	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR26	Common	270 ohm, 5%, 1/4W, Carbon
DR28	Common	43K ohm, 5%, 1/4W, Carbon
DR30	EP14X125	47K ohm, 5%, 1/4W, Carbon
DR31	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR40	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
DR41	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR42	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
DR43	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR44	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
DR45	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR46	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
DR47	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR48	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
DR49	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR50	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
DR51	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR52	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
DR53	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR54	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
DR55	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR56	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
DR57	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR60	Common	3.9K ohm, 5%, 1/4W, Carbon
DR61	Common	1.2K ohm, 5%, 1/4W, Carbon
DR63	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR64	EP14X104	22K ohm, 5%, 1/4W, Carbon
DR65	EP14X136	33K ohm, 5%, 1/4W, Carbon
DR66	Common	100K ohm, 5%, 1/4W, Carbon
DR67	Common	100K ohm, 5%, 1/4W, Carbon
DR70	EP14X103	10K ohm, 5%, 1/4W, Carbon
DR71	EP14X104	22K ohm, 5%, 1/4W, Carbon
DR72	EP14X104	22K ohm, 5%, 1/4W, Carbon
DR73	Common	100K ohm, 5%, 1/4W, Carbon
DR74	Common	15K ohm, 5%, 1/4W, Carbon
DR75	Common	27K ohm, 5%, 1/4W, Carbon
DR76	EP14X125	47K ohm, 5%, 1/4W, Carbon
DR78	EP14X123	39K ohm, 5%, 2W, Carbon
DR79	EP14X125	47K ohm, 5%, 1/4W, Carbon
DR80	Common	240K ohm, 5%, 1/4W, Carbon
DR81	EP14X119	68K ohm, 5%, 1/4W, Carbon
DR82	EP14X271	82K ohm, 2%, 1/4W, Carbon
DR83	EP14X119	68K ohm, 5%, 1/4W, Carbon
DR84	EP14X271	33K ohm, 2%, 1/4W, Carbon
DR86	EP14X271	15K ohm, 2%, 1/4W, Carbon
DR87	EP14X271	8.2K ohm, 2%, 1/4W, Carbon
DR88	Common	7.5K ohm, 5%, 1/4W, Carbon
DR89	EP14X271	8.2K ohm, 2%, 1/4W, Carbon
DR90	Common	160 ohm, 5%, 1/4W, Carbon
DR92	ES14X71	1K ohm, 5%, 1/4W, Carbon
DR94	EP14X187	100 ohm, 5%, 1/4W, Carbon
DR99	ES14X58	470 ohm, 5%, 1/4W, Carbon

DR100	ES14X79	1 ohm, 5%, 1/4W, Carbon
DR104	Common	100K ohm, 5%, 1/4W, Carbon
DR108	Common	100K ohm, 5%, 1/4W, Carbon
DR112	Common	100K ohm, 5%, 1/4W, Carbon
DR116	Common	100K ohm, 5%, 1/4W, Carbon

CONTROLS

DR93	EP49X381	Electronic Tuning, 1K ohm, 20%
DT21	EP36X354	Remote Control
DT22	EP36X364	Remote Control
DT23	EP36X364	Remote Control
DT24	EP36X364	Remote Control

DIODES

DY05	ES16X27	Silicon
DY06	ES16X27	Silicon
DY07	ES16X27	Silicon
DY08	ES16X27	Silicon
DY12	ES16X27	Silicon
DY13	ES16X27	Silicon
DY21	ES16X27	Silicon
DY22	ES16X27	Silicon
DY23	ES16X27	Silicon
DY24	ES16X27	Silicon
DY29	ES16X27	Silicon
DY30	ES16X27	Silicon
DY31	ES16X27	Silicon
DY61	EP16X32	Zener
DY75	ES16X27	Silicon
DY88	ES16X27	Silicon
DY90	ES16X27	Silicon
DY94	ES16X27	Silicon
DY95	EP57X4	Rectifier
DY96	EP57X4	Rectifier
DY97	ES16X27	Silicon
DY98	EP16X72	Zener
DY99	ES16X27	Silicon

INTEGRATED CIRCUITS

DIC35	EP84X116	LMP91 Control
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TRANSISTORS

DQ04	EP15X126	PNP, Pull-Up
DQ08	EP15X126	PNP, Pull-Up
DQ12	EP15X126	PNP, Pull-Up
DQ16	EP15X126	PNP, Remote Control, On/Off
DQ21	EP15X88	NPN, Remote Control, On/Off
DQ22	EP15X88	NPN, Remote Control, On/Off
DQ23	EP15X88	NPN, Remote Control, On/Off
DQ24	EP15X88	NPN, Remote Control, On/Off
DQ25	EP15X88	NPN,

LMP91 REMOTE TRANSMITTER (M-E)

76-5-1901

MISCELLANEOUS

EP4X225	Case—Remote Transmitter, Without Battery Cover
EP4X224	Cover—For Battery, Black, Plastic
EP4X226	Keys - Channel Select (For EP93X212)
EP4X270	Keys—Channel Select (For EP93X259)
EP93X212	Remote Transmitter Circuit Board Complete (Uses Key EP4X226)
EP93X259	Remote Transmitter Circuit Board Complete (Uses Key EP4X270)
EP39X145	Switch—Push (Uses Four) Used with EP93X212 Ckt. Bd.
EP39X150	Switch—Push (Uses Four) Used with EP93X259 Ckt. Bd.

EP93X212

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
EC01	EP20X24	120pf, 5%, 50V, Mica
EC02	EP20X25	220pf, 5%, 50V, Mica
EC03	EP20X26	390pf, 5%, 50V, Mica
EC04	EP20X27	560pf, 5%, 50V, Mica
EC05	EP20X28	390pf, 5%, 50V, Mica
EC06	EP18X169	.01uf, 30%, 25V, Cer. Disc
EC07	EP18X169	.01uf, 30%, 25V, Cer. Disc
EC08	EP18X221	1500pf, 30%, 25V, Cer. Disc
EC09	EP31X55	100uf, 10V, Electrolytic

RESISTORS

ER01	EP14X133	470K ohm, 5%, 1/4W, Carbon
ER02	EP14X103	10K ohm, 5%, 1/4W, Carbon
ER03	Common	3K ohm, 5%, 1/4W, Carbon
ER04	EP14X125	47K ohm, 5%, 1/4W, Carbon
ER05	EP14X103	10K ohm, 5%, 1/4W, Carbon
ER06	Common	750 ohm, 5%, 1/4W, Carbon
ER07	Common	33 ohm, 5%, 1/4W, Carbon

COIL

ET1	EP36X384	Remote Control
-----	----------	----------------

DIODES

EY01	EP16X33	Infrared
EY02	EP16X33	Infrared
EY03	EP16X33	Infrared

TRANSISTORS

EQ01	EP15X88	NPN, Oscillator
EQ02	EP15X88	NPN, Driver
EQ03	EP15X48	PNP, Driver

EP93X259

CAPACITORS

EC01	EP20X24	120pf, 5%, 50V Mica
EC02	EP20X25	220pf, 5%, 50V Mica
EC03	EP20X26	390pf, 5%, 50V Mica
EC04	EP20X27	560pf, 5%, 50V Mica
EC05	EP20X28	390pf, 5%, 50V Mica
EC06	EP18X169	.01uf, 30%, 25V, Cer. Disc.
EC07	EP18X169	.01uf, 30%, 25V, Cer. Disc.
EC08	EP18X221	1500pf, 30%, 25V, Cer. Disc.

RESISTORS

ER01	EP14X133	470K ohm, 5%, 1/4W, Carbon
ER02	EP14X103	10K ohm, 5%, 1/4W, Carbon
ER03	Common	3K ohm, 5%, 1/4W, Carbon
ER04	EP14X125	47K ohm, 5%, 1/4W, Carbon
ER05	EP14X103	10K ohm, 5%, 1/4W, Carbon
ER06	Common	750 ohm, 5%, 1/4W, Carbon
ER07	ES14X56	33 ohm, 5%, 1/4W, Carbon

COIL

ET1	EP36X347	Remote Control
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DIODES

EY01	EP16X33	Infrared
EY02	EP16X33	Infrared
EY03	EP16X33	Infrared

TRANSISTORS

EQ01	EP15X88	NPN, Oscillator
EQ02	EP15X88	NPN, Driver
EQ03	EP15X48	PNP, Driver

LMP91 REMOTE RECEIVER (M-G)

EP93X225

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
GC01	EP18X118	.1uf, 10%, 25V, Cer. Disc
GC02	EP18X218	680pf, 20%, 50V, Cer. Disc
GC03	EP31X52	2.2uf, 50V, Electrolytic
GC04	EP18X203	270pf, 10%, 50V, Cer. Disc
GC05	EP18X74	330pf, 20%, 50V, Cer. Disc
GC10	EP18X203	270pf, 10%, 50V, Cer. Disc
GC12	EP31X45	47uf, 16V, Electrolytic
GC15	EP18X203	270pf, 10%, 50V, Cer. Disc
GC16	EP31X44	22uf, 10V, Electrolytic
GC17	ES25X8	.022uf, 20%, 50V, Polyester
GC24	EP18X81	1000pf, 20%, 50V, Cer. Disc
GC25	EP18X118	.1uf, 10%, 25V, Cer. Disc

RESISTORS

GR01	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
GR02	Common	100K ohm, 5%, 1/4W, Carbon
GR03	Common	4.3K ohm, 5%, 1/4W, Carbon
GR04	Common	5.1K ohm, 5%, 1/4W, Carbon
GR05	Common	100K ohm, 5%, 1/4W, Carbon
GR08	EP14X125	47K ohm, 5%, 1/4W, Carbon
GR09	Common	220K ohm, 5%, 1/4W, Carbon
GR10	Common	5.8K ohm, 5%, 1/4W, Carbon
GR11	Common	430 ohm, 5%, 1/4W, Carbon
GR12	Common	200 ohm, 5%, 1/4W, Carbon
GR13	Common	3K ohm, 5%, 1/4W, Carbon
GR14	Common	2.7K ohm, 5%, 1/4W, Carbon
GR15	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
GR16	Common	3.9K ohm, 5%, 1/4W, Carbon
GR18	Common	200K ohm, 5%, 1/4W, Carbon
GR19	Common	8.2K ohm, 5%, 1/4W, Carbon
GR20	Common	91K ohm, 5%, 1/4W, Carbon
GR21	Common	27 ohm, 5%, 1/4W, Carbon
GR24	Common	13K ohm, 5%, 1/4W, Carbon
GR25	Common	3.9K ohm, 5%, 1/4W, Carbon

DIODES

GY01	EP16X28	Photo-Pin
GY24	EP57X4	Rectifier
GY25	EP57X4	Rectifier

TRANSISTORS

GQ05	ES15X92	FET
GQ10	EP15X89	NPN, Amplifier
GQ15	EP15X48	PNP, Amplifier
GQ20	ES15X128	PNP, Amplifier
GQ25	ES15X128	PNP, Amplifier

MISCELLANEOUS

RL245	EP8X94	Connector—4 pos.
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READOUT INTERFACE BOARD (M-K)

EP93X226

CAPACITORS

KC31	EP18X197	1000pf, 10%, 50V, Cer. Disc
KC32	EP18X197	1000pf, 10%, 50V, Cer. Disc
KC33	EP18X197	1000pf, 10%, 50V, Cer. Disc
KC34	EP18X197	1000pf, 10%, 50V, Cer. Disc
KC41	EP18X197	1000pf, 10%, 50V, Cer. Disc
KC42	EP18X197	1000pf, 10%, 50V, Cer. Disc
KC51	EP31X35	10uf, 16V, Electrolytic
KC52	EP25X87	.047uf, 20%, 50V, Polyester

RESISTORS

KR11	ES14X58	470 ohm, 5%, 1/4W, Carbon
KR12	ES14X58	470 ohm, 5%, 1/4W, Carbon
KR13	ES14X58	470 ohm, 5%, 1/4W, Carbon
KR14	ES14X58	470 ohm, 5%, 1/4W, Carbon
KR15	ES14X58	470 ohm, 5%, 1/4W, Carbon
KR16	ES14X58	470 ohm, 5%, 1/4W, Carbon
KR17	ES14X58	470 ohm, 5%, 1/4W, Carbon
KR21	ES14X58	470 ohm, 5%, 1/4W, Carbon
KR22	ES14X58	470 ohm, 5%, 1/4W, Carbon
KR23	ES14X58	470 ohm, 5%, 1/4W, Carbon
KR24	ES14X58	470 ohm, 5%, 1/4W, Carbon
KR25	ES14X58	470 ohm, 5%, 1/4W, Carbon
KR26	ES14X58	470 ohm, 5%, 1/4W, Carbon
KR27	ES14X58	470 ohm, 5%, 1/4W, Carbon
KR31	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
KR32	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
KR33	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
KR34	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
KR41	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
KR42	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
KR51	ES14X78	1 ohm, 5%, 1/4W, Carbon

INTEGRATED CIRCUITS

KIC10	EP84X110	7 - Seg. Driver
KIC20	EP84X110	7 - Seg. Driver

MISCELLANEOUS

RL242	EP8X91	Connector - 9 pos.
	EP34X52	Socket - IC

LMP AUDIO INTERFACE

EP93X383

CAPACITORS

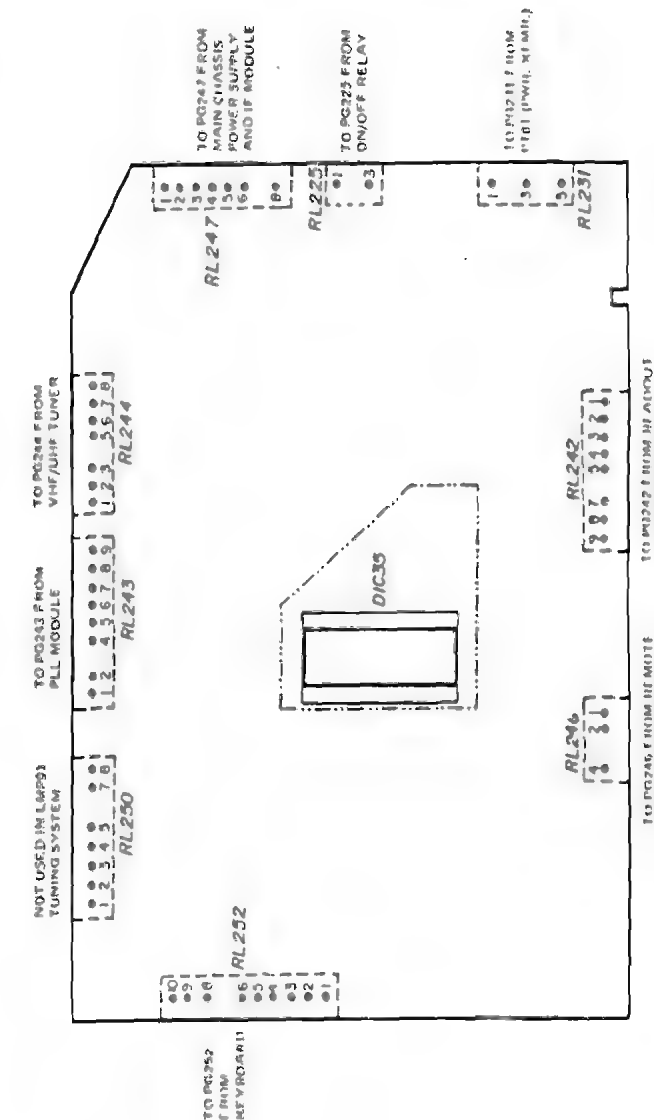
REF. NO.	PART. NO.	DESCRIPTION
C1102	EP31X159	470uf, 20%, 16V, Elect.

RESISTORS

R1101	ES14X57	390 ohm, 5%, 1/4W, Carbon
R1103	ES14X57	390 ohm, 5%, 1/4W, Carbon
R1105	Common	1.5K ohm, 5%, 1/4W, Carbon
R1107	ES14X60	580 ohm, 5%, 1/4W, Carbon
R1109	ES14X71	1K ohm, 5%, 1/4W, Carbon

TRANSISTOR

Q1100	ES15X90	PNP, Silicon
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LMP91 TUNER CONTROL MODULE (EP93X279) PLUG LOCATIONS

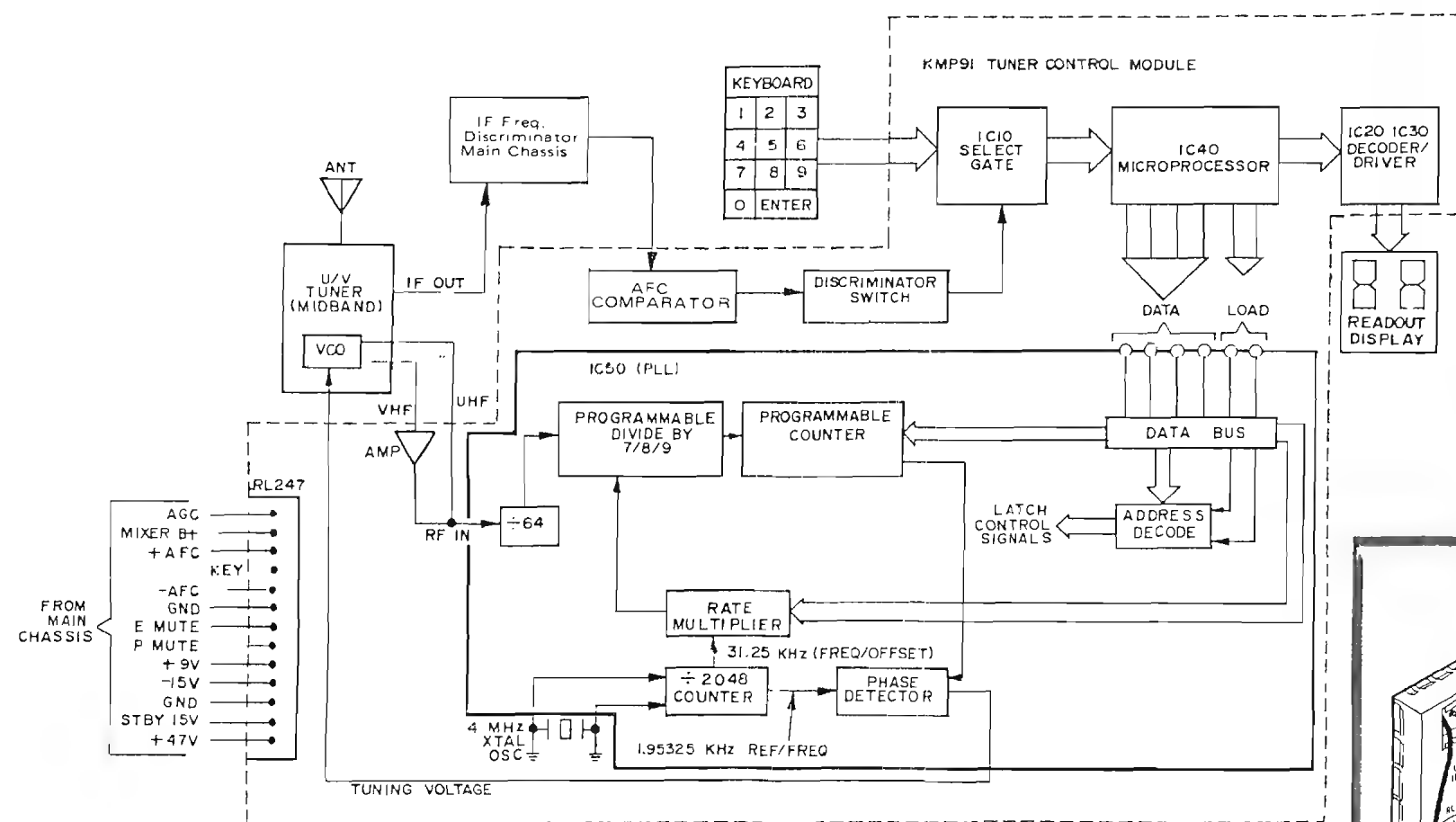
KMP91 ELECTRONIC TUNING SYSTEM

PC CHASSIS

PG212

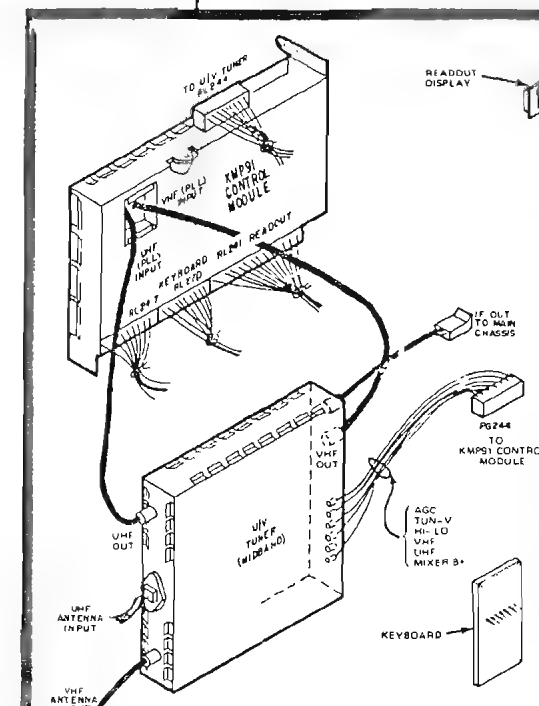


KEYBOARD TO CONTR



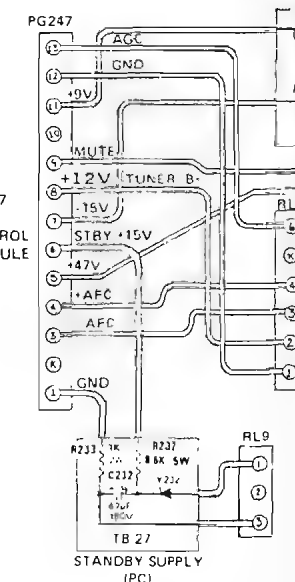
KMP91 TUNING SYSTEM BLOCK DIAGRAM

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

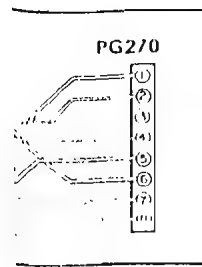


KMP91 TUNING SYSTEM COMPONENT ASSEMBLIES

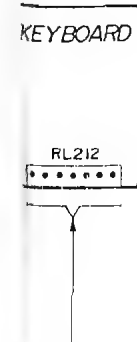
PC CHASSIS



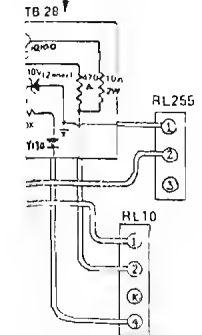
INTERFACE CONNECTIONS



OL MODULE HARNESS



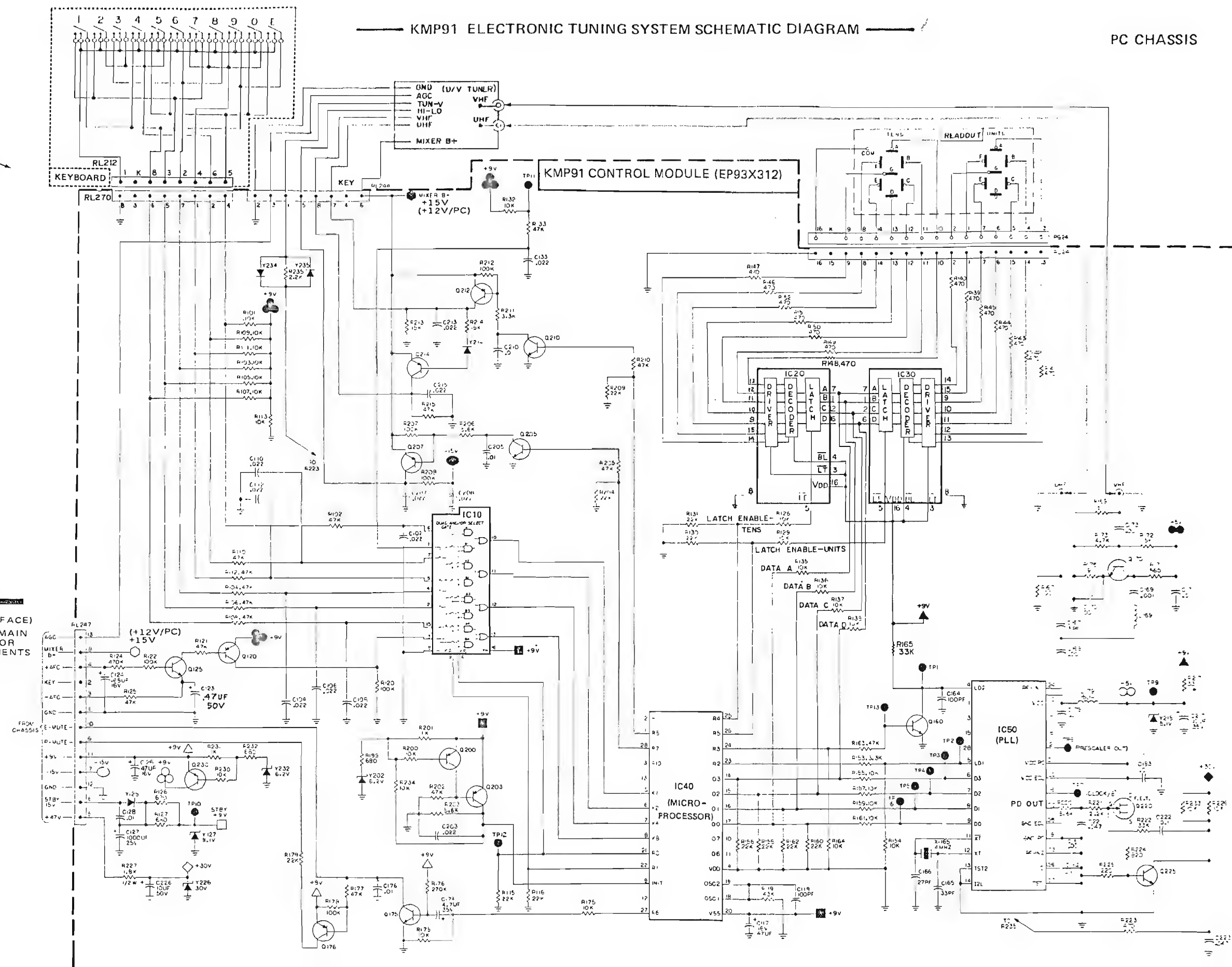
(POWER SUPPLY INTERFACE)
SEE CHASSIS LAYOUT MAIN
CHASSIS SCHEMATIC FOR
LOCATION OF COMPONENTS

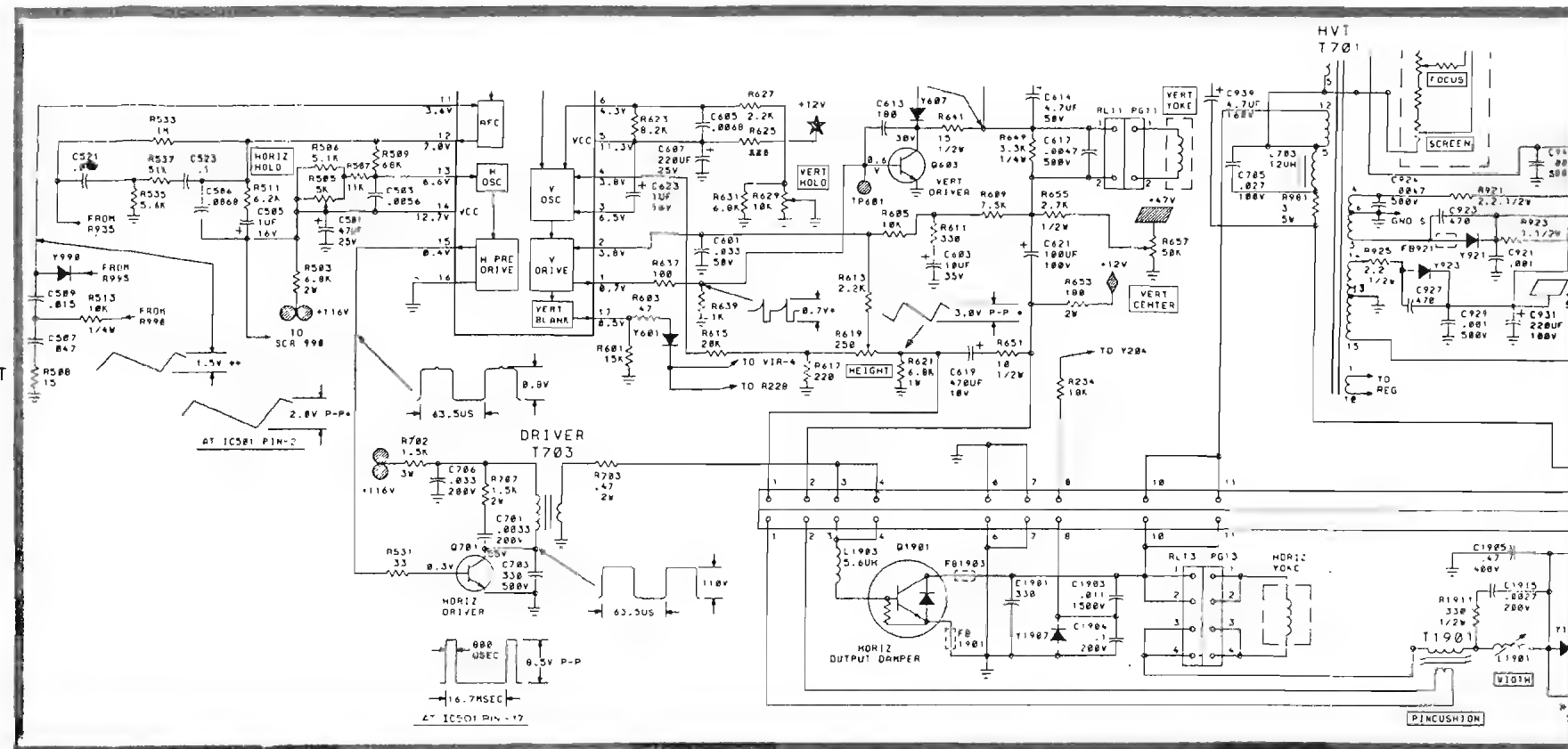


TO KMP91 CONTROL MODULE

KMP91 ELECTRONIC TUNING SYSTEM SCHEMATIC DIAGRAM

PC CHASSIS





R S
CHECK THE CIRCUITRY OF IC901 AND Y921. CHECK THE HVT WINDING BETWEEN PINS 3 AND 6.

L
CHECK SCR903 AND ITS ASSOCIATED CIRCUITRY FOR A SHORTED CONDITION.

L
USE A VARIABLE ISOLATION TRANSFORMER TO REDUCE THE LINE VOLTAGE UNTIL C904 TO GROUND READS APPROX. +80VDC AND STOPS PULSATING.

ADJUST R953 TO SET THE VOLTAGE TO VOLTAGE CANNOT BE ADJUSTED PROPERLY THE CIRCUIT AND CHECK Q901, Q902 ASSOCIATED COMPONENTS. **B F**

C
MEASURE THE VOLTAGE ON PIN 14 OF IC501. IS THE VOLTAGE:
0 +7V TO +10VDC

R REMOVE POWER FROM THE RECEIVER. REPLACE C1903 AND C1904. IF NO SUCCESS DEFECTIVE HIGH VOLTAGE TRANSFORMER.

G
IS R503 OVERHEATING?
YES
NO

GN
CHECK THE HORIZONTAL OUTPUT CIRCUITRY. Q701 AND Q1901 ARE THE MOST LIKELY COMPONENTS TO BE AT FAULT.

DOES THE SET OPERATE NORMALLY?
NO
YES

R
REMOVE POWER FROM THE RECEIVER. UNSOLDER ONE END OF Y991.* RESTORE POWER. DOES THE SET COME BACK ON?
YES
NO

G
CHECK R503 FOR AN OPEN CONDITION.

C
IF NO SUCCESS MEASURE THE DC VOLTAGES 13, 14, 15, AND 16 OF IC501. IF THE VOLTAGES TRY TO DETERMINE THE CAUSE. IF NO SUCCESS IC501.

TROUBLESHOOT FOR THE NEW SYMPTOM INDICATED BY THE SET.

SET LINE VOLTAGE TO 120VAC. MEASURE HIGH VOLTAGE. IS IT TOO HIGH? IS IT MORE THAN 26.8KV?

***NOTE: Y991 MUST BE RESTORED TO THE CIRCUIT BEFORE COMPLETING THE REPAIR.**

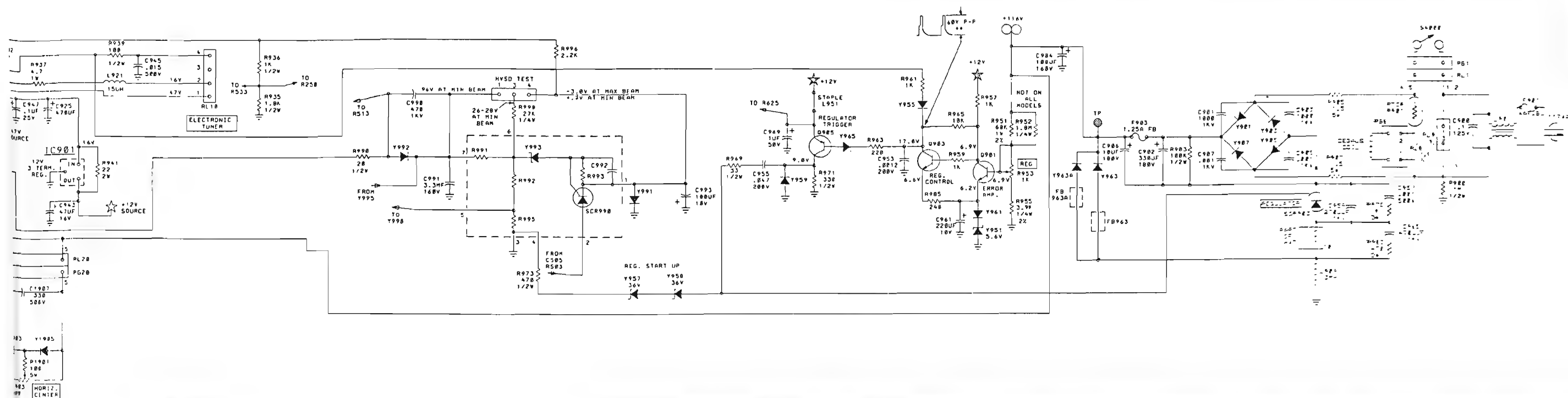
CAREFULLY OBSERVE THE SET FOR NORMAL OPERATION BEFORE COMPLETING THE REPAIR.

CR
REMOVE POWER AND RESTORE Y991 TO THE CIRCUIT. EITHER IC501 OR A COMPONENT CONNECTED TO PIN 14 OF IC 501 IS SHORTED.

USE THE +116 VOLT B+ DISTRIBUTION DIAGRAM ON PAGE 12 TO FIND THE SHORT. PRIMARY SUSPECT IS Q1901, HORIZONTAL OUTPUT TRANSISTOR.

L
MEASURE THE VOLTAGE FROM C904 TO GROUND. IS THE VOLTAGE +116VDC \pm 5V?

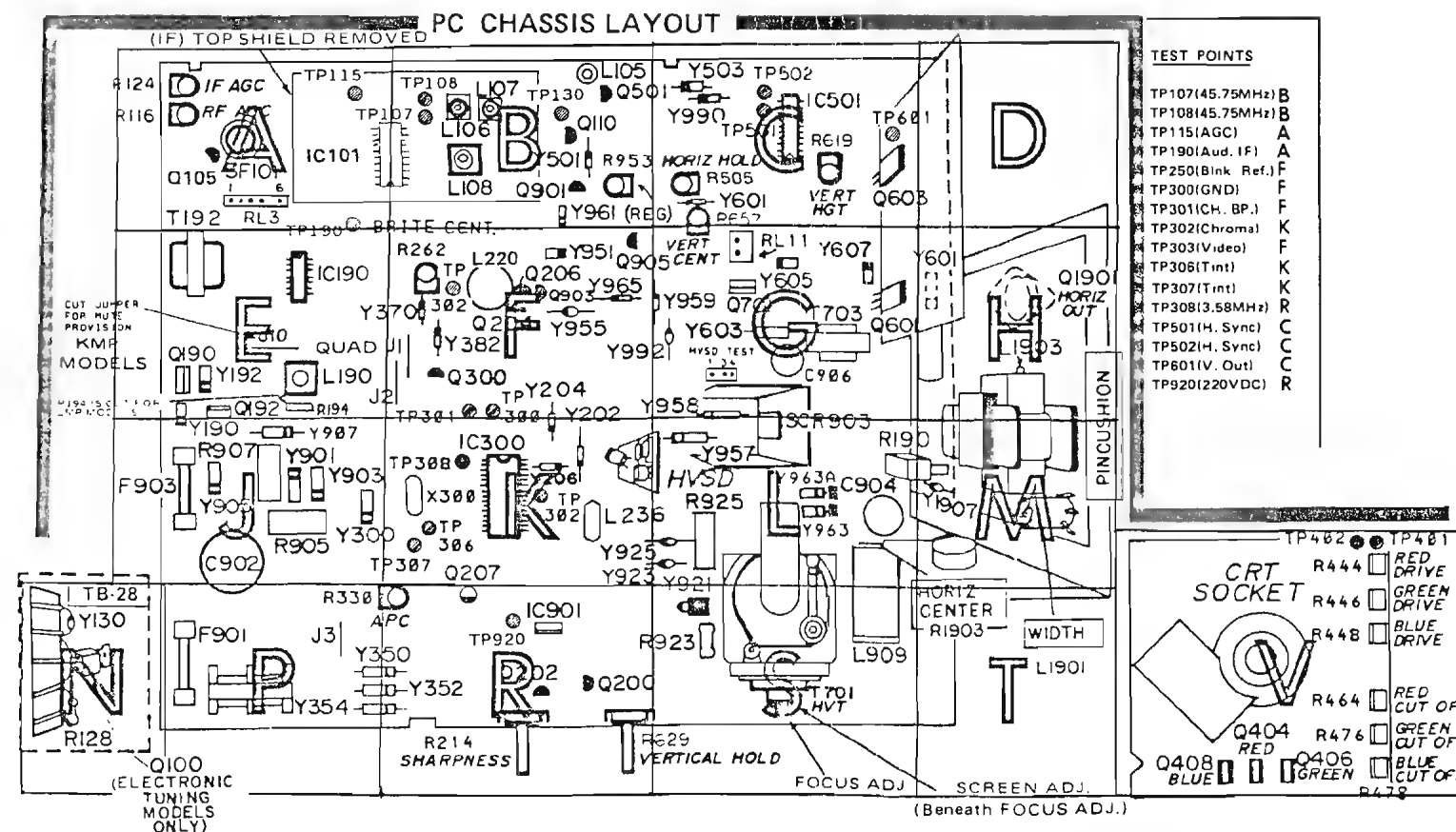
R
REMOVE POWER FROM THE RECEIVER. RESTORE Y991. REPLACE THE HIGH VOLTAGE SHUTDOWN MODULE.



+116VDC $\pm 1V$. IF THE
ONLY RESTORE Y991 TO
2, Q903 AND THEIR

RESTORE Y991.
SUSPECT A

ON PINS 11, 12,
ARE INCORRECT
CESS REPLACE



19PC RADIO/CLOCK/TIMER CHASSIS

RADIO/CLOCK/TIMER MODULE

Volume Limiting Set Up Procedure:

This control is in series with the volume controls on the front of the receiver (both TV and radio) and can be set to limit maximum volume. To limit TV volume, tune the receiver to a strong local station, turn the volume control to maximum and then set the outer volume limit control for maximum desired sound output. To limit the radio volume, tune the radio to a strong local station, turn the volume control to maximum desired volume level.

General Test Procedures:

1. Clock:

- Apply 120 volts AC to system.
- Display should come on with 12:00 AM flashing.
- Hold time set button and use Fast and Slow button to set required time, display should stop flashing once Time Set and Fast or Slow buttons are pushed.
- As time display is cycled, the AM/PM indicator lights should alternate on and off every 12 hours.

2. Power Switch:

- Push in Power Switch. Either the TV or radio should turn on depending on position of Radio/TV Switch.

3. Radio/TV Mode Switch:

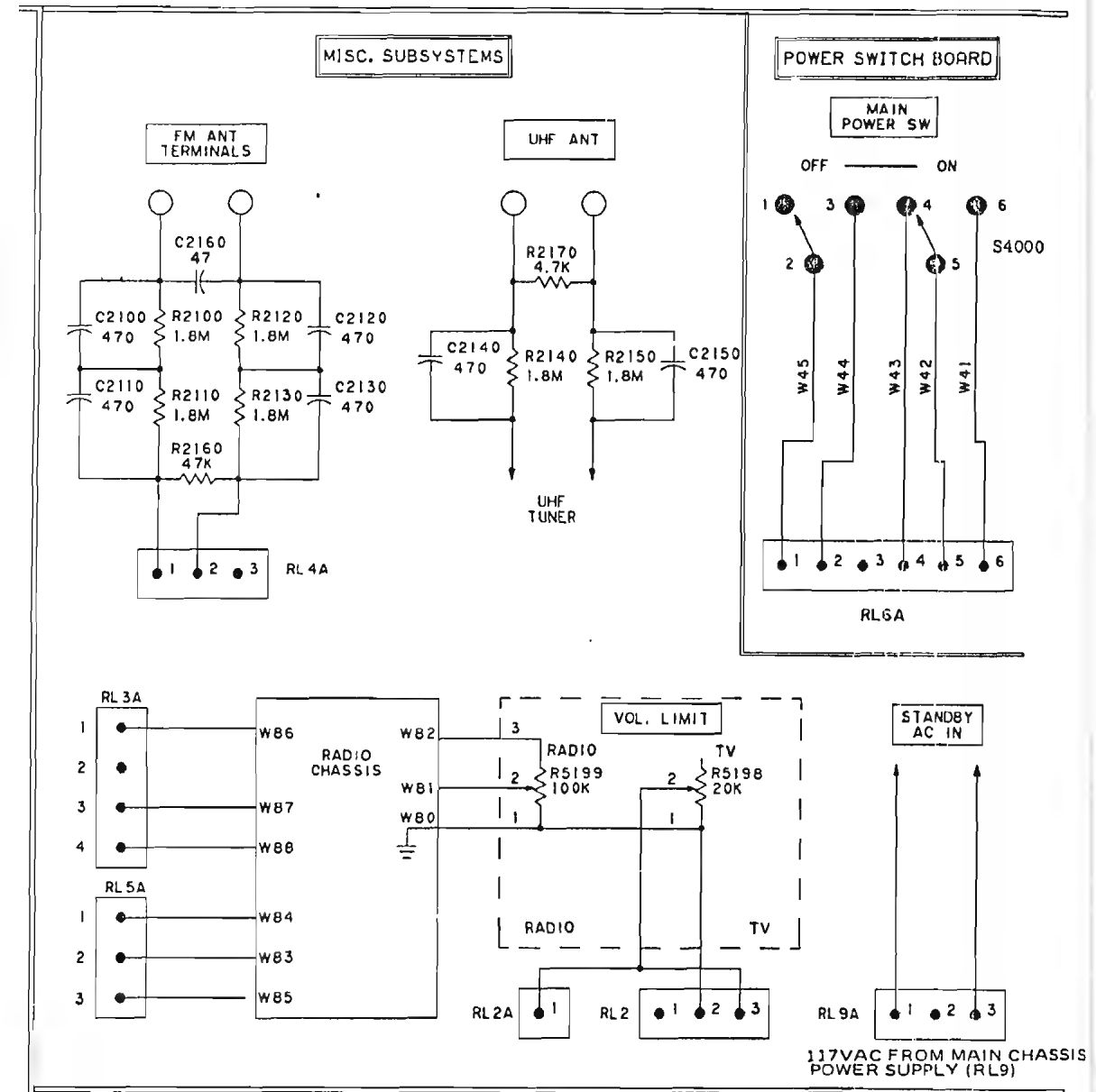
- Power switch must be on.
- Push in Radio/TV switch, red LED indicator light next to the switch should come on and TV should not be operating.
- Push Radio/TV switch so it returns to the out position, the TV channel display should light up and the TV chassis should be operating.

4. Alarm Switch:

- Power Switch and Radio Switch must be depressed.
- Tune radio to a active AM or FM station.
- Hold Alarm Set button in and use Fast and Slow buttons to set alarm time (alarm time should be set at least 5 minutes ahead of current time on display).
- Set radio station (AM or FM) to required volume level.
- Turn power switch off, use Time SET and Fast or Slow button to advance time to alarm operating time, radio should come on (Red indicator light will not be on). Use Time Set and Slow button to advance time 9 minutes past alarm set time, an alarm tone should come on over top of the radio sound.
- Push Radio/TV switch to the TV (out) position, radio and alarm should remain on.
- Use Time Set and Fast and Slow buttons to advance time 60 minutes past alarm set time, alarm should turn off.
- As long as the alarm set time is not changed, the alarm system will operate every 24 hours if the Alarm Switch is depressed.
- Note: If the Alarm Switch is in, and the alarm set time occurs during normal operation of the radio, the alarm tone will be heard over top of the radio sound 9 minutes after the alarm set time. To cancel this tone, turn the Alarm Switch off (as indicated by the alarm light turning off).

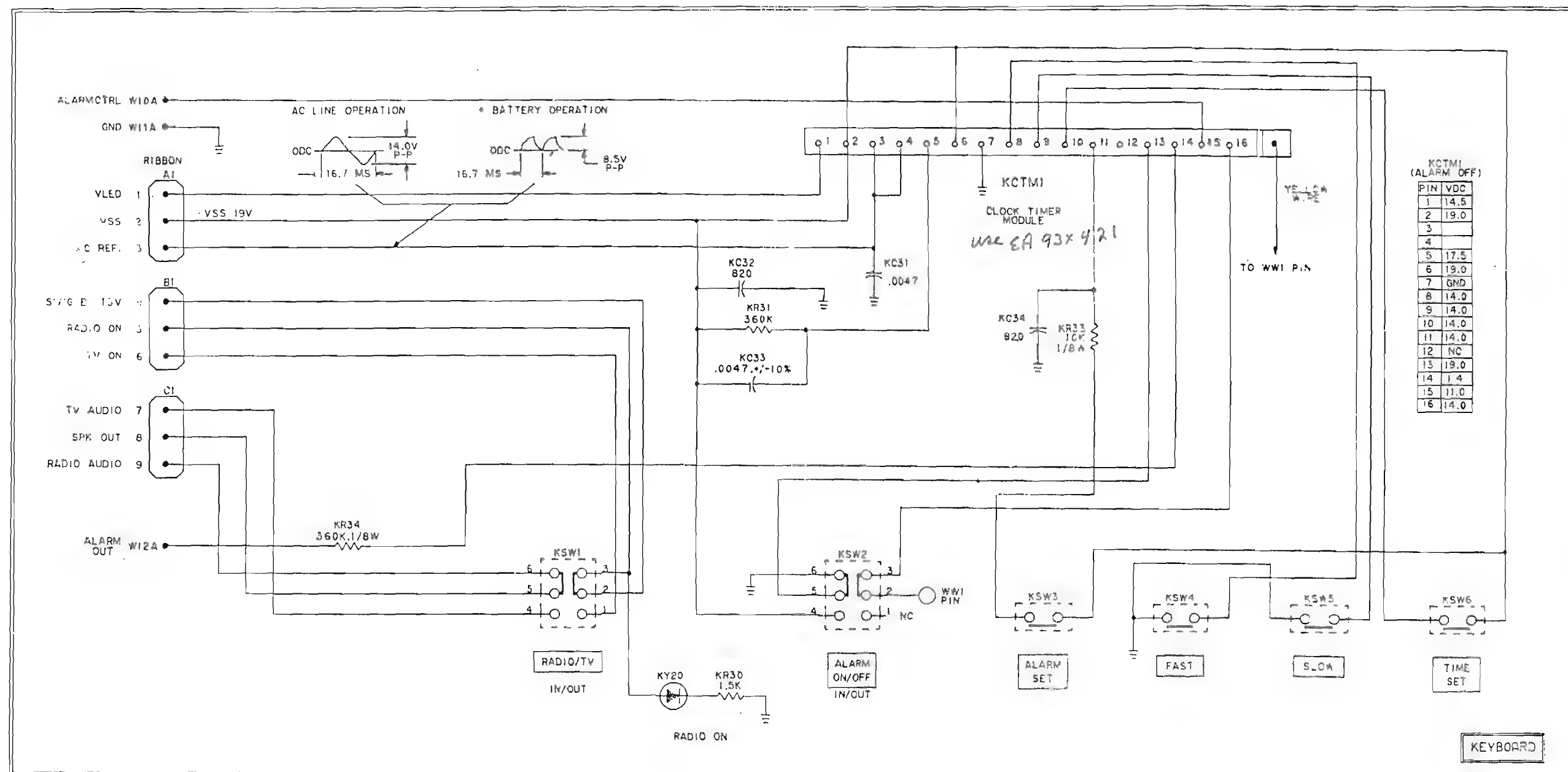
5. Battery Back-Up

- AC power must have been applied to system for at least 24 hours, (48 hours is preferred) or equivalent charge applied to battery.
- Activate alarm system and set alarm time to occur during test period. Record current clock time and alarm time then remove AC power source. Green LED display will extinguish.
- At the end of three hours, reapply power to system, time displayed should be within specifications and alarm time should be the same as previously set.



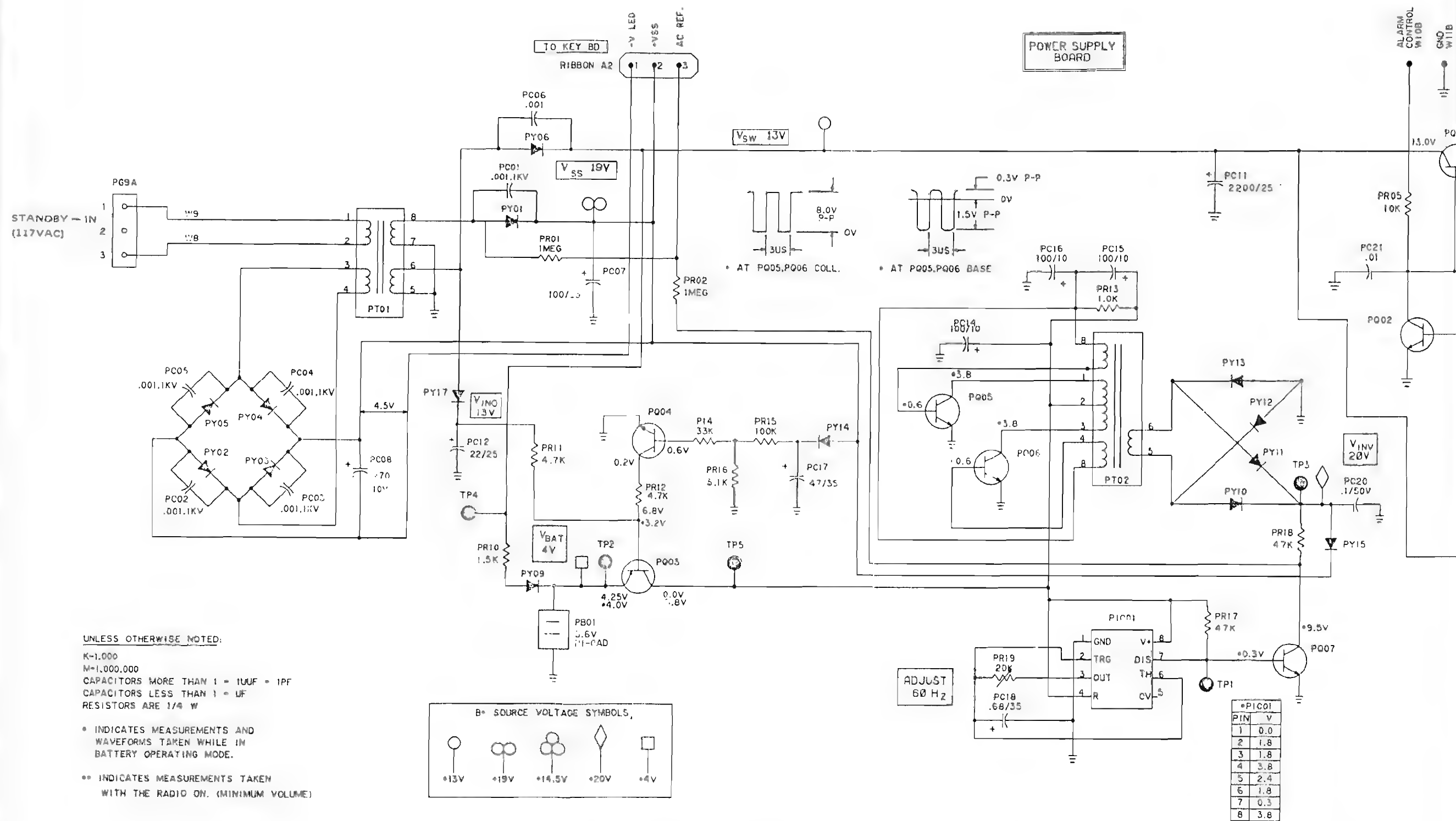
PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST OR IN THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CAUSE FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

- CLOCK/TIMER MODULE KEYBOARD DIAGRAM AND INTERFACE CONNECTIONS TO RADIO CHASSIS POWER SUPPLY -

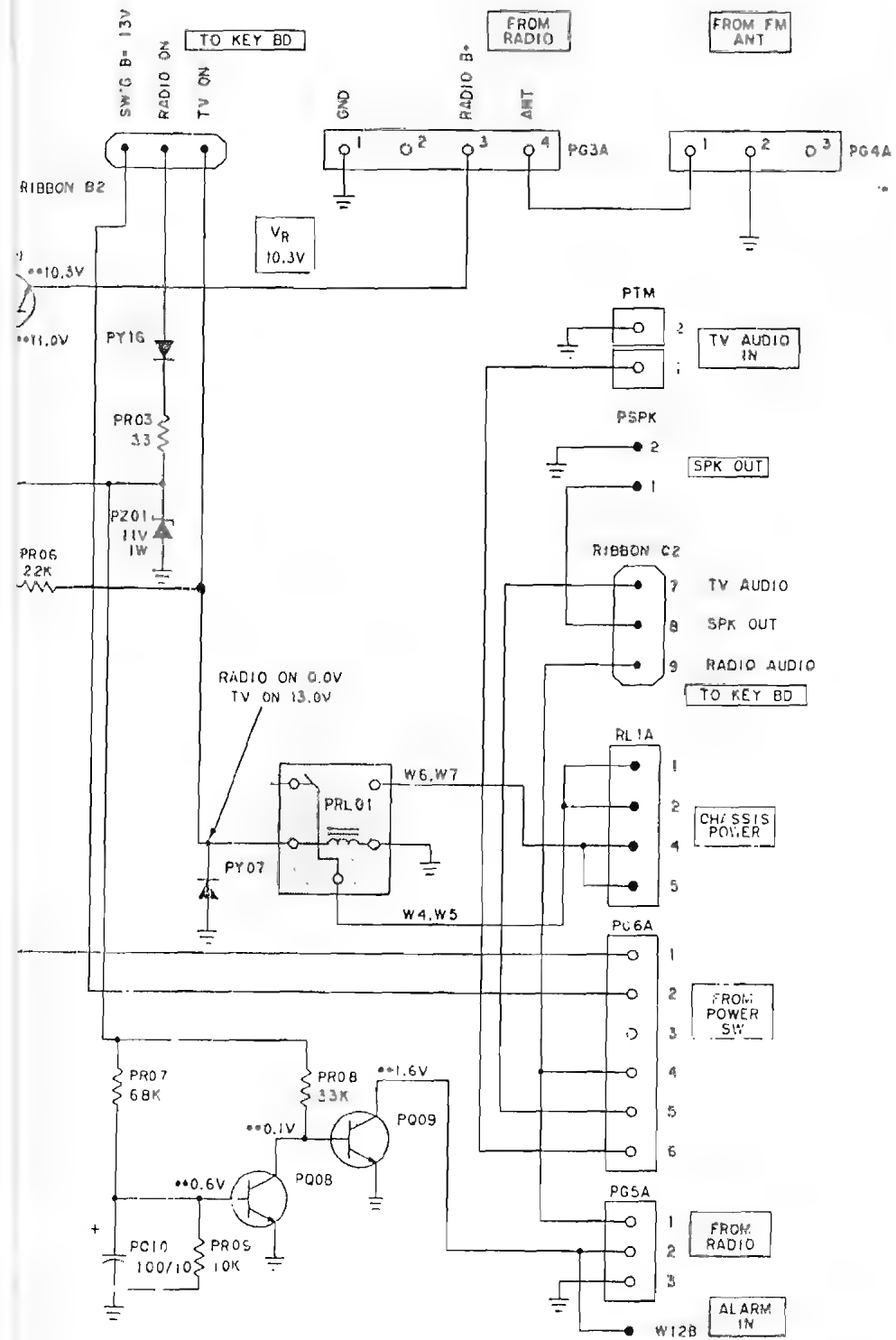


LIST AND THE SHADED
HAT EXACT CATALOGED
DIAGRAM.
ON MAY CREATE SHOCK.

— CLOCK/RADIO/TIMER POWER SUPPLY SCHEMATIC DIAGRAM AND INTERFACE CONNECTIONS —



PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION



AM/FM RADIO ALIGNMENT PROCEDURE

AM ALIGNMENT - AM ALIGNMENT SWITCH IN AM POSITION

AM GENERATOR - RF Radiated Signal Modulated 30% at 400Hz

GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. 455 KHz	Low End	Output Meter	T3, T6	Adjust for maximum
2. 1630 KHz	High End		C1H	Adjust for maximum
3. 520 KHz	Low End	Across Speaker	L1	Adjust for maximum. Repeat Steps 2 & 3 for Band Ends.
4. 1400 KHz	Tune to Signal		C1G	Adjust for maximum
5. 580 KHz	Tune to Signal		L2	Slide tank coil along core to obtain maximum output. Repeat Steps 4 & 5 until no further improvement is noted. Wax or cement tank coil to core.

FM ALIGNMENT - BAND SWITCH IN FM POSITION/VOLUME CONTROL AT MINIMUM

High Side of FM Sweep Generator thru a 5pf capacitor in series with 68Ω resistor to TP1. Use only enough Marker Signal for Indication

GENERATOR FREQUENCY	RADIO DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. 10.7 MHz	High End	Scope at TP2 Thru Detector Pad (Figure 1)	T1A, T1B	Adjust for maximum gain and symmetry. Repeat as necessary.
2. 10.7 MHz	High End	Scope at TP3 Thru 100K Resistor	T5	Adjust for symmetrical S-Curve. Using strong input signal (Fig.2)
3. 10.7 MHz	High End	Scope at TP3 Thru 100K Resistor	T5	Reduce input signal until S-Curve shrinks to .2V. Re-adjust for best symmetry (Fig.3)

FM GENERATOR - Modulated RF Radiated Signal

4. 109.0 MHz	High end	Output Meter Across Speaker	C1F	Adjust for maximum
5. 87.5 MHz	Low End		L5	Spread or compress coil windings slightly to raise or lower frequency. Repeat Steps 4 & 5.
6. 108.0 MHz	Tune To Signal		C1E	Adjust for maximum
7. 88 MHz	Tune to Signal		L3	Spread or compress coil windings slightly to obtain optimum alignment. Repeat Steps 6 & 7.

NOTE: SCOPE USED MUST HAVE AT LEAST 50 MV/CM SENSITIVITY AND SWEEP GENERATOR AT LEAST 200MV OUTPUT

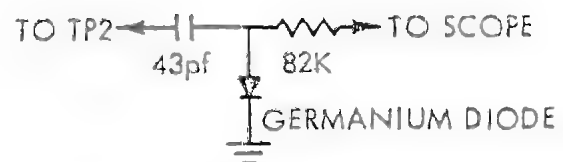


FIGURE 1

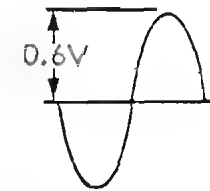


FIGURE 2

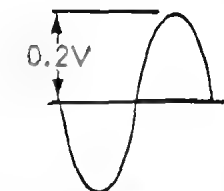


FIGURE 3

19PC-C CHASSIS

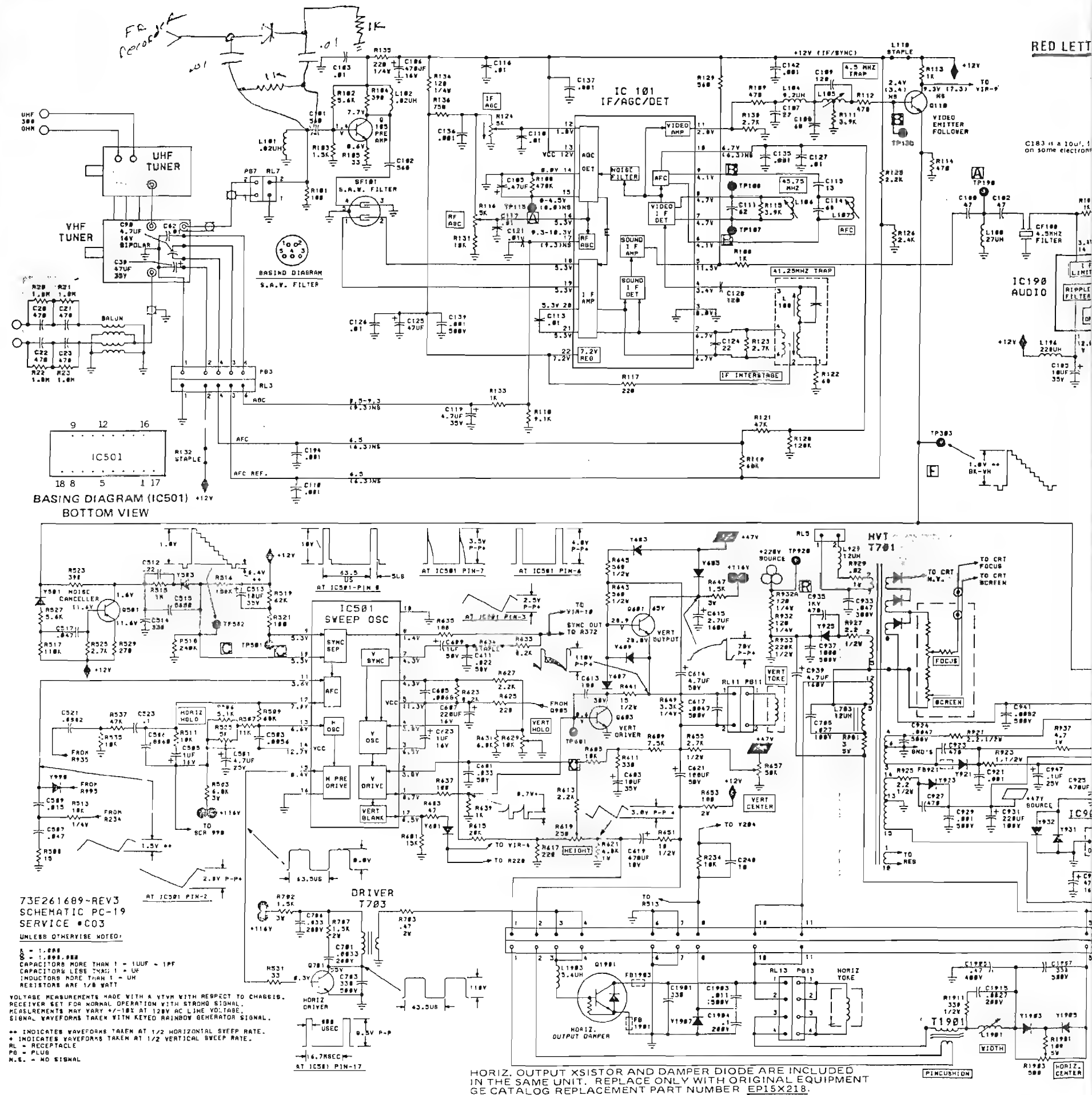
SEE SECTION ON ELECTRONIC TUNING SYSTEMS FOR SERVICE INFORMATION ON ALL ELECTRONIC TUNING MODELS.

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

- NOTE -

Replace CRT (V401) with the same type in the receiver or factory authorized substitute only. See Model Page in Service Manual or CRT Label for correct CRT replacement part number.

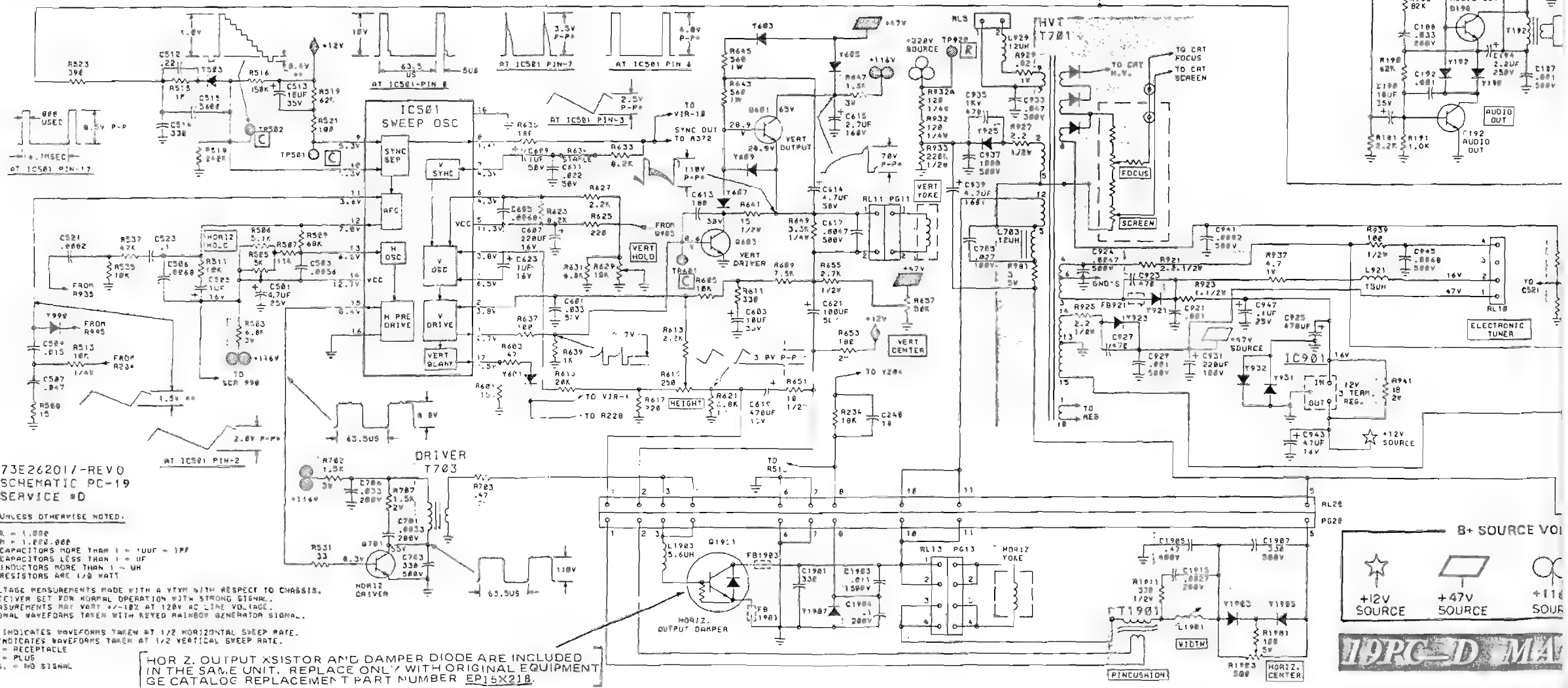
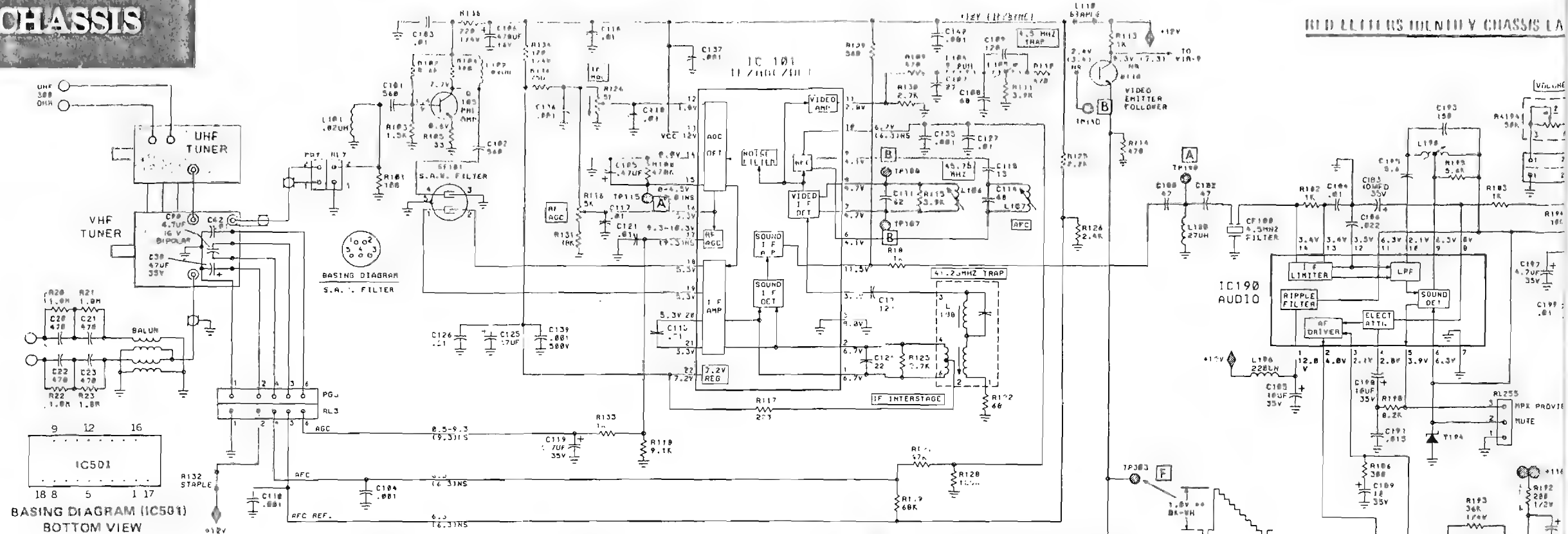


RED LET



19PC-D CLASSIS

SEE SECTION ON ELECTRONIC TUNING SYSTEMS
FOR SERVICE INFORMATION ON ALL ELECTRO-
NIC TUNING MODELS.



IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas in the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-radiation.

73E262017-REVO
SCHEMATIC PC-19
SERVICE #0

UNLESS OTHERWISE NOTED,

R = 1.000
H = 1.000.000
CAPACITORS MORE THAN 1 = 1UF = 1PF
CAPACITORS LESS THAN 1 = UF
INDUCTORS MORE THAN 1 = UH
RESISTORS ARE 1/0 WATT

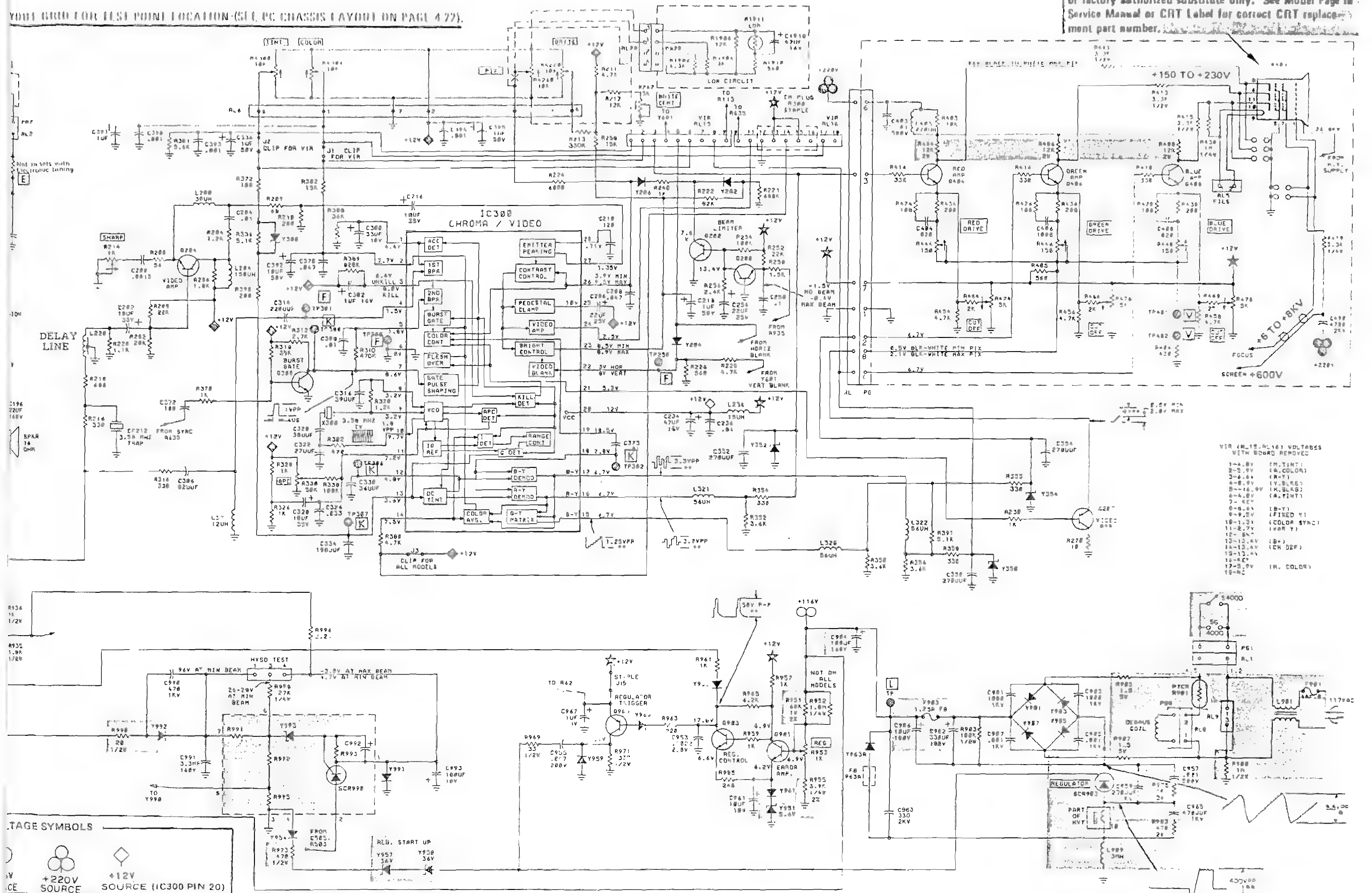
VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS.
RECEIVER SET FOR NORMAL OPERATION WITH STRONG SIGNAL.
MEASUREMENTS MAY VARY $\pm 10\%$ AT 120V AC LINE VOLTAGE.
SIGNAL WAVEFORMS TAKEN WITH REYED RAINBOW GENERATOR SIGNAL.

* INDICATES WAVEFORMS TAKEN AT 1/2 HORIZONTAL SWEEP RATE.
 * INDICATES WAVEFORMS TAKEN AT 1/2 VERTICAL SWEEP RATE.
 AL = RECEIPTABLE
 PD = PLUG
 N.S. = NO SIGNAL

FOR Z. OUTPUT XSISTOR AND DAMPER DIODE ARE INCLUDED IN THE SAME UNIT. REPLACE ONLY WITH ORIGINAL EQUIPMENT GE CATALOG REPLACEMENT PART NUMBER EP15X218.

NOTE
Replace CRT (V401) with the same type in the receiver or factory authorized substitute only. See Model Page in Service Manual or CRT Label for correct CRT replacement part number.

YOUR GRID FOR TEST POINT LOCATION (SEE PC CHASSIS LAYOUT ON PAGE 422).



SEE SECTION ON ELECTRONIC TUNING SYSTEMS
FOR SERVICE INFORMATION ON ALL ELECTRO-
NIC TUNING MODELS.

73E262182 REV 1
SCHEMATIC PC-19
SERVICE #F/H

UNLESS OTHERWISE NOTED:
K = 1,000
M = 1,000,000
CAPACITORS MORE THAN 1 = 10UF = 1PF
CAPACITORS 1.88 THAN 1 = 1UF
INDUCTORS MORE THAN 1 = 1UH
RESISTORS ARE 1/4 WATT

VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS.
RECEIVER SET FOR NORMAL OPERATION WITH STRONG SIGNAL.
MEASUREMENTS MAY VARY +/-10% AT 120V AC, 10% VOLTAGE.
SIGNAL WAVEFORMS TAKEN WITH KEYED RAINBOW GENERATOR SIGNAL.

** INDICATED WAVEFORMS TAKEN AT 1/2 HORIZONTAL SWEEP RATE.
* INDICATES WAVEFORMS TAKEN AT 1/2 VERTICAL SWEEP RATE.
RL = RECEPTACLE
PB = PLUG
N.S. = NO SIGNAL

HORIZ. OUTPUT XISTOR AND DAMPER DIODE ARE INCLUDED IN THE SAME UNIT. REPLACE ONLY WITH ORIGINAL EQUIPMENT
GE CATALOG REPLACEMENT PART NUMBER EP15X218.

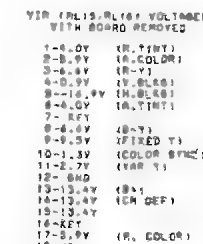
B+ SOURCE VOLTAGE S

+12V +12V +16V +47V +

19PC-PH MAIN

WPC-FH MAIN

**Not in sets with
Electronic Tuning.**



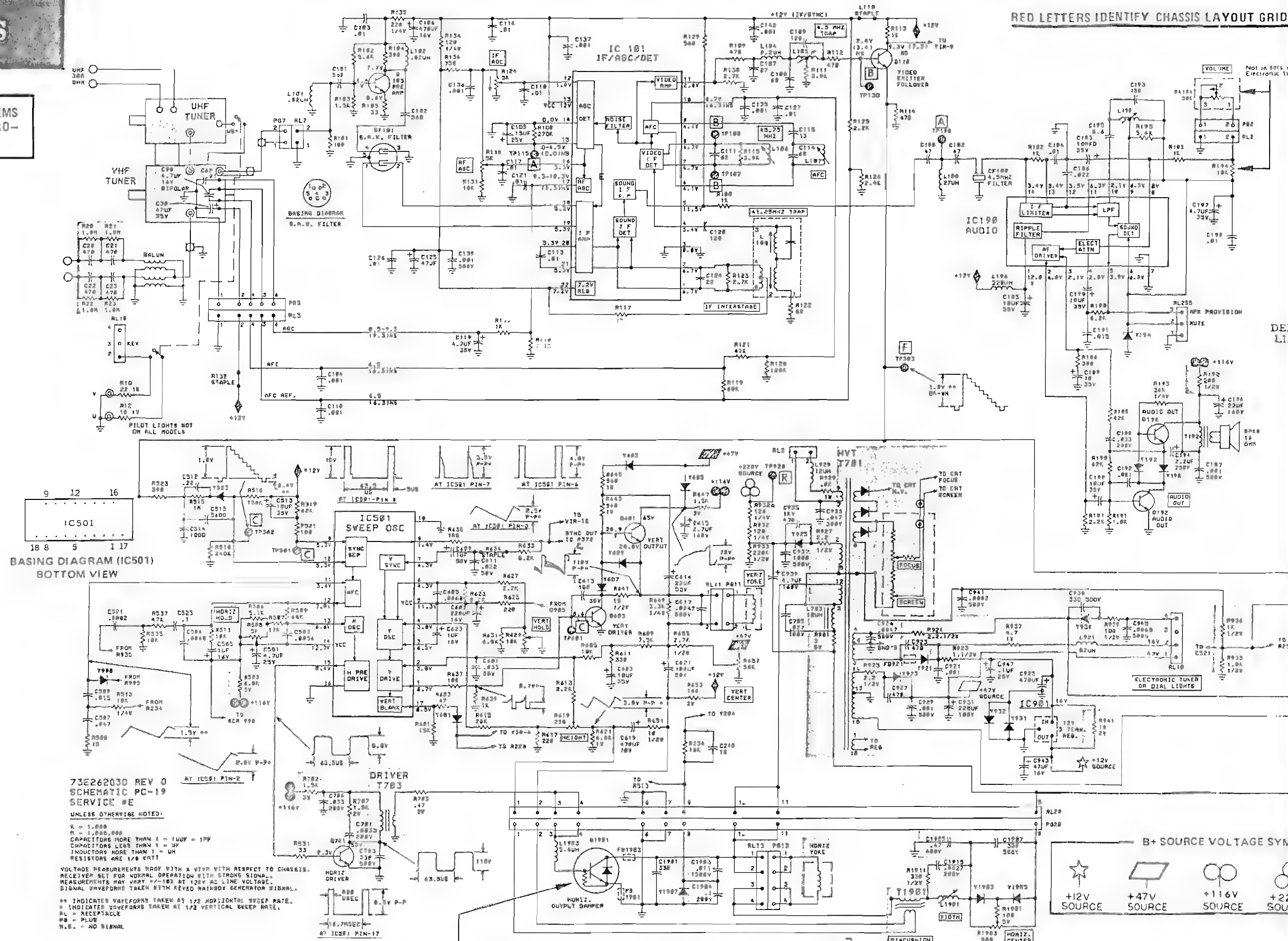
**F903 is a Fast-Blow
for (PC-F) and Medium
Blow for (PC-H).**

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by : (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create shock, fire or other hazards, or excessive X-Radiation.

19PC-E CHASSIS

SEE SECTION ON ELECTRONIC TUNING SYSTEMS FOR SERVICE INFORMATION ON ALL ELECTRONIC TUNING MODELS.

RED LETTERS IDENTIFY CHASSIS LAYOUT GRID



BASING DIAGRAM (IC501)
BOTTOM VIEW

IMPORTANT SAFETY NOTICE

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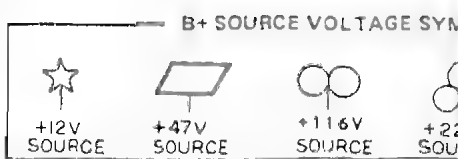
73E262030 REV 0 SCHEMATIC PC-19 SERVICE #E

UNLESS OTHERWISE NOTED:
K = 1,000
M = 1,000,000
CAPACITORS MORE THAN 1 = 100F = 100P
CAPACITORS LESS THAN 1 = PF
INDUCTORS MORE THAN 1 = MH
RESISTORS ARE 1/8 WATT

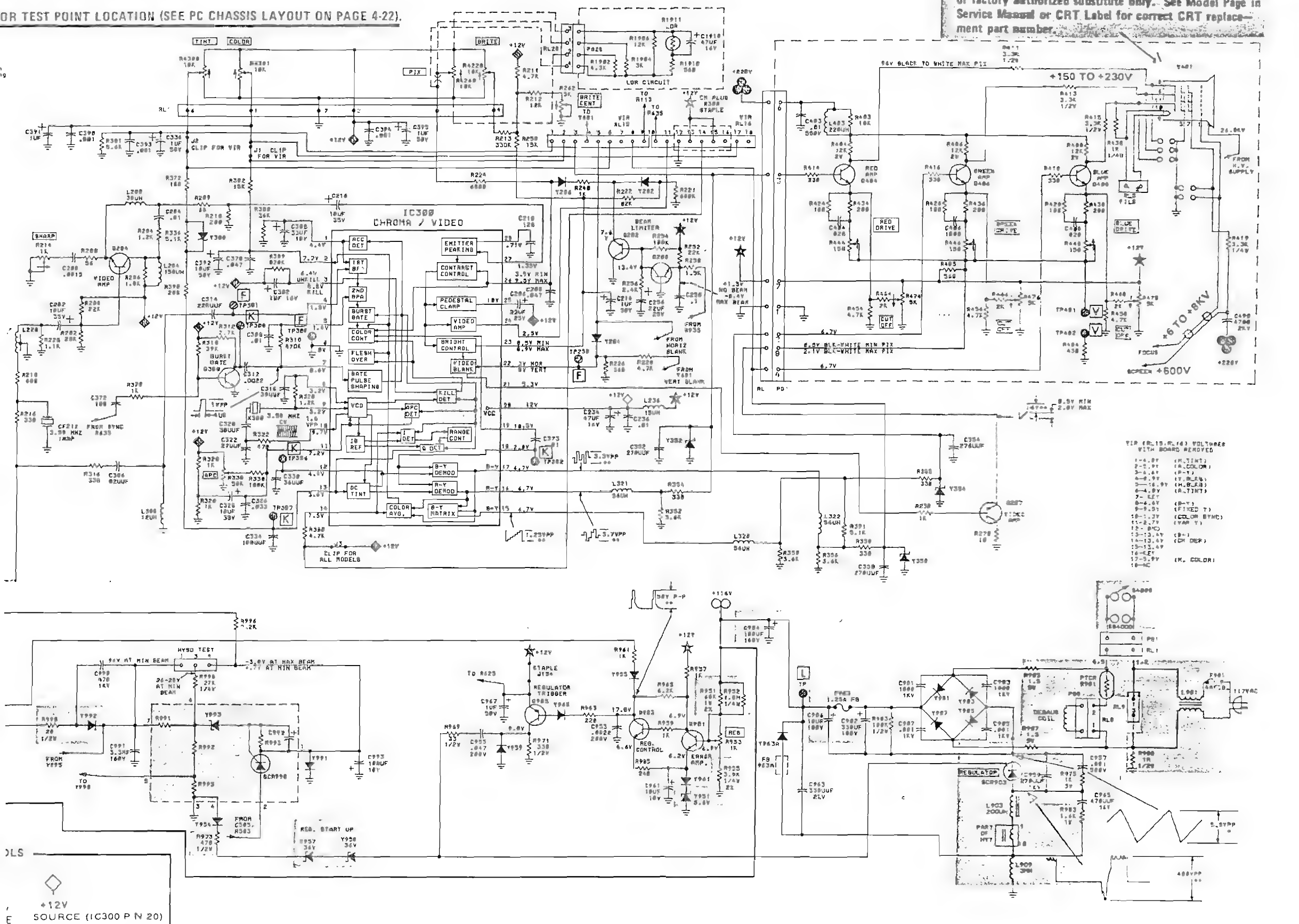
VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS.
RECEIVER SET FOR NORMAL OPERATION WITH STRONG SIGNAL.
MEASUREMENTS MAY VARY +/- 10% AT 120V AC LINE VOLTAGE.
SIGNAL WAVEFORMS TAKEN WITH KEYED RAINBOW GENERATOR SIGNAL.

⊙ INDICATES WAVEFORMS TAKEN AT 1/2 HORIZONTAL SWEEP RATE.
⊙ INDICATES WAVEFORMS TAKEN AT 1/2 VERTICAL SWEEP RATE.
RL = RECEPTACLE
PB = PLUG
N.B. = NO SIGNAL

HORIZ. OUTPUT X-ISTOR AND DAMPER DIODE ARE INCLUDED IN THE SAME UNIT. REPLACE ONLY WITH ORIGINAL EQUIPMENT GE CATALOG REPLACEMENT PART NUMBER EP15X218.



19PC-E MAIN CHASSIS



19PC-C/D/E MAIN CHASSIS REPLACEMENT PARTS LIST

IMPORTANT SAFETY NOTICE

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CIRCUIT BOARD ASSEMBLIES

PART NO. DESCRIPTION

	Main Circuit Board
EP93X377	RGB Circuit Board
EP93X453	Horiz. Heat Sink Circuit Board
EP93X462	VIR Circuit Board

CHASSIS

PARTS NOT ON CIRCUIT BOARDS

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C30	EP31X45	47uf, 10%, 25V, Elect.
C60	ES25X22	.01uf, 20%, 50V, Polyester
C232	EP31X147	47uf, +100-10%, 250V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R10	EP14X154	22 ohm, 5%, 1W, Carbon (PC-E Only)
R12	EP14X54	18 ohm, 5%, 1W, Carbon (PC-E Only)
R29	EP14X326	VARISTOR-"MOV", Metal Oxide
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R234	EP14X296	100 ohm, 5%, 1/2W, Metal Oxide

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	Horiz. Centering

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
	EP36X445	COIL-Degaussing
	EP42X8	CONVERGENCE ASM.
	EP76X30	YOKE
L50	ES36X82	CHOKES-220uh, 10%
L1901	EP36X443	COIL-Width
T701	EP77X56	TRANSFORMER-H.V.
T1901	EP36X444	COIL-Pincushion Asm.

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-75 to 300 ohm (Antenna)
	EP8X36	ANODE-CRT Connector
	EP2X544	BRACKET-Ckt. Bd. Support, Plastic
	EP2X546	BRACKET-CRT Ground Terminal
	EP2X543	BRACKET-H.V.T. Brace, Plastic
	EP2X539	BRACKET-H.V.T. Support, Plastic
	EP2X271	BRACKET-Rib Boss For Cabinet Front

EP2X548	BRACKET-Anode Lead Dress
EP8X51	CABLE-Coaxial, 7" W/Phono Plugs
EP8X60	CABLE-Antenna Bracket To Tuner
EP8X124	CABLE-ET91 to UHF & KMP To UHF
EP8X97	CABLE-Coaxial, VHF to UHF (Mech. Only)
EP2X90	CLAMP-Yoke & Conv. Retainer
EP3X4	CLIP-Upper CRT Bkt - Tuner
EP2X545	CLIP-Chassis Mounting (Uses 2)
EP2X548	CLIP-Anode Retainer
EP8X93	CONNECTOR-5 Pos.
EP8X90	CONNECTOR-3 Pos.
EP8X30	CONNECTOR-1 Pos.
EP8X71	CONNECTOR-6 Pos.
EP8X66	CONNECTOR-7 Pos.
EP8X68	CONNECTOR-2 Pos.
EP8X90	CONNECTOR-3 Pos.
EP8X94	CONNECTOR-3 Pos.

(KMP112/LMP112/SET112)

PG/RL12	EP8X30	CONNECTOR-1 Pin
RL16A	EP8X66	CONNECTOR-7 Pos.
RL17	EP8X90	CONNECTOR-5 Pos.
RL28	EP8X42	CONNECTOR-4 Pins
RL59	EP8X43	CONNECTOR-2 Pins
RL60	EP8X43	CONNECTOR-2 Pins
RL232	EP8X90	CONNECTOR-5 Pos.
PG250	EP8X43	CONNECTOR-2 Pins
	EP66X19	CORD-AC Power, Polarized, Wired In-Type
	EP3X53	CUSHION-Yoke Wedge
EP92X101		FRAME-Front & Sides, For Main Board Support, Plastic
EP92X102		FRAME-Rear Support, For Main Board, Plastic
F901	EP10X19	FUSE-4 amp, 250V, Snap-In, Fast Acting
F903	EP10X55	FUSE-1.25 amp, 250V, Snap-In, Slow Acting
	EP34X65	SOCKET-CRT
SG4000	EP41X145	SPARK CAP-(On Units W/Mechanical Tuners) (PC-D/E)
	EP2X534	SPRING-Ground, CRT (Uses 2)
	EP2X535	STRAPS-Degaussing Coil Adjust Wire Tie
	EP90X3	

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C103	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C104	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C105	ES25X21	.15uf, 20%, 50V, Polyester (PC-D/E)
C105	EP31X138	.47uf, 20%, 50V, Elect. (PC-C Only)
C106	EP31X159	470uf, 20%, 16V, Elect.
C107	EP18X187	27pf, 5%, 50V, Cer. Disc
C108	EP18X191	68pf, 5%, 50V, Cer. Disc
C109	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C110	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
C113	EP18X197	.01uf, 10%, 50V, SHiK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, Cer. Disc
C115	EP18X101	13pf, 5%, 50V, NPO, Cer. Disc
C116	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C117	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C118	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C119	EP31X170	4.7uf, 20%, 35V, Elect.

C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
C121	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C124	EP18X186	22pf, 10%, 50V, NPO, Cer. Disc
C125	EP31X45	47uf, 20%, 10V, Elect.
C126	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C127	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C135	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C136	EP18X220	1000pf, 10%, 500V, Cer. Disc
C137	EP18X220	1000pf, 10%, 500V, Cer. Disc
C139	EP18X259	1000pf, 10%, 500V, HiK, Cer. Disc
C142	EP18X259	1000pf, 20%, 500V, HiK, Cer. Disc
C180	EP18X189	47pf, 5%, 50V, Cer. Disc
C182	EP18X189	47pf, 5%, 50V, Cer. Disc
C183	EP31X149	10uf, 20%, 35V, Elect. (PC-D/E)
C183	EP25X87	.047uf, 10%, 50V, Polyester (PC-C Only)
C184	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C185	EP31X149	10uf, 20%, 35V, Elect.
C186	EP25X130	.022uf, 10%, 50V, Polyester
C187	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C188	EP25X146	.033uf, 10%, 200V, Mylar
C189	EP31X149	10uf, 20%, 35V, Elect.
C190	EP31X149	10uf, 20%, 35V, Elect.
C191	EP18X170	.015uf, 10%, 25V, Cer. Disc
C192	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C193	EP18X113	150pf, 5%, 50V, NPO, Cer. Disc
C194	EP31X152	2.2uf, +50-20%, 250V, Elect.
C195	EP18X182	5.6pf, 10%, 50V, Cer. Disc
C196	EP31X153	22uf, +50-10%, 160V, Elect.
C197	EP31X170	4.7uf, 20%, 35V, Elect.
C198	EP31X149	10uf, 20%, 35V, Elect.
C199	EP18X169	.01uf, 30%, 25V, Cer. Disc
C200	EP18X274	1500pf, 10%, 50V, SHiK, Cer. Disc
C202	EP31X149	10uf, 10%, 35V, Elect.
C204	EP18X169	.01uf, 30%, 25V, Cer. Disc
C206	EP31X172	22uf, 20%, 25V, Elect.
C208	EP31X170	4.7uf, 20%, 35V, Elect. (PC-E Only)
C210	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C216	EP31X149	10uf, 10%, 35V, Elect.
C218	EP31X166	1uf, 20%, 50V, Elect.
C234	EP31X88	47uf, 10%, 16V, Elect.
C236	EP18X169	.01uf, 30%, 25V, Elect.
C240	ES18X56	18pf, 10%, 500V, Cer. Disc
C250	EP25X77	.1uf, 20%, 50V, Polyester
C256	EP31X172	22uf, 20%, 25V, Elect.
C300	EP31X175	33uf, +50-20%, 10V, Elect.
C302	EP31X178	1uf, 10%, 35V, Tantalum
C306	EP18X122	82pf, 5%, 50V, Cer. Disc
C308	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C312	EP18X198	2200pf, 30%, 25V, HiK, Cer. Disc
C314	EP18X202	220pf, 10%, 50V, NPO, Cer. Disc
C316	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C320	EP18X219	30pf, 5%, 50V, Cer. Disc
C322	EP18X187	27pf, 5%, 50V, Cer. Disc
C326	EP25X124	.033uf, 20%, 50V, Polyester
C328	EP31X149	10uf, 20%, 35V, Elect.
C330	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
C334	EP18X194	100pf, 5%, 50V, Cer. Disc
C336	EP31X166	1uf, 20%, 50V, Elect.
C350	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C352	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C354	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C370	EP25X87	.047uf, 20%, 50V, Polyester
C372	EP18X223	180pf, 10%, 50V, HiK, Cer. Disc
C373	EP18X169	.01uf, 30%, 25V, NPO, Cer. Disc
C390	EP18X220	1000pf, +80-20%, 500V, HiK Cer Disc
C391	EP31X166	1uf, 20%, 50V, Elect.
C392	EP31X149	10uf, 20%, 35V, Elect.
C393	EP18X259	1000pf, 10%, 500V, HiK, Cer. Disc
C394	EP18X220	1000pf, +80-20%, 500V, HiK Cer Disc
C395	EP31X166	1uf, 20%, 50V, Elect.

C501	EP31X170	4.7uf, 20%, 35V, Elect.
C503	EP25X149	5600pf, 5%, 100V, Polypropylene
C505	EP31X178	1uf, 10%, 16V, Tantalum
C506	EP25X150	6800pf, 10%, 50V, Polyester
C507	EP25X87	.047uf, 10%, 50V, Polyester
C509	EP25X127	.015uf, 10%, 50V, Polyester
C512	EP25X95	.22uf, 10%, 50V, Polyester
C513	EP31X149	10uf, 20%, 35V, Elect.
C514	EP18X197	1000pf, 10%, 50V, SHiK, Cer. Disc
C514	EP18X217	330pf, 10%, 50V, SHiK, Cer. Disc
C515	EP25X94	5600pf, 10%, 50V, Polyester
C521	EP25X80	.015uf, 10%, 50V, Polyester (PC-
C517	EP25X87	.047uf, 10%, 50V, Polyester
C521	EP25X160	8200pf, 10%, 50V, Polyester (PC-
C523	EP25X77	.1uf, 20%, 50V, Polyester
C601	EP25X171	.033uf, 10%, 50V, Polyester
C603	EP31X149	10uf, 20%, 35V, Elect.
C605	EP18X229	6800pf, 10%, 50V, SHiK, Cer. Di
C607	EP31X141	220uf, 20%, 16V, Elect.
C609	EP31X166	1uf, 20%, 50V, Elect.
C611	EP25X130	.022uf, 10%, 50V, Polyester
C613	EP18X286	180pf, 5%, 500V, Cer. Disc
C614	EP31X172	22uf, 20%, 25V, Elect. (PC-D/E)
C614	EP31X11	4.7uf, 20%, 50V, Elect. (PC-C On
C615	EP31X151	2.7uf, 20%, 160V, Elect.
C617	EP18X220	1000pf, 20%, 500V, HiK, Cer. Di
C617	EP18X264	4700pf, 20%, 500V, HiK, Cer. Di
C619	EP31X154	470uf, 20%, 10V, Elect.
C621	EP31X169	100uf, 20%, 50V, Elect.
C623	EP31X178	1uf, 10%, 35V, Tantalum
C701	EP25X110	3300pf, 10%, 200V, Mylar
C703	EP18X217	330pf, 10%, 500V, SHiK, Cer. Di
C705	EP25X148	.027uf, 10%, 100V, Polyester
C706	EP25X146	.033uf, 20%, 200V, Mylar
C901	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
* C902	EP31X66	330uf, 20%, 180V, Elect.
C903	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
* C904	EP31X109	100uf, 10%, 160V, Elect.
C905	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
* C906	EP31X156	10uf, +50-20%, 180V, Elect.
C907	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
C921	EU22X76	1000pf, 20%, 500V, HiK, Cer. Di
C923	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C924	EP18X264	4700pf, 20%, 500V, HiK, Cer. Di
C925	EP31X159	470uf, 20%, 25V, Elect
C927	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C929	EP18X81	1000pf, 20%, 500V, Cer. Disc
C931	EP31X157	220uf, 20%, 100V, Elect
C933	EP25X89	.047uf, 20%, 300V, Mylar
C935	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C937	EP18X81	1000pf, 20%, 500V, Cer. Disc
C938	EP18X217	330pf, 10%, 500V, Cer. Disc (PC-
C939	EP31X155	4.7uf, +50-20%, 160V, Elect
C941	EP18X132	8200pf, 10%, 500V, Cer. Disc
C943	EP31X45	47uf, 20%, 16V, Elect.
C945	EU22X212	6800pf, 20%, 500V, Cer. Disc
C947	EP18X118	.1uf, 10%, 25V, Cer. Disc
C953	EP25X161	1800pf, 10%, 200V, Mylar
C955	EP20X20	.047uf, 10%, 200V, Mylar
C957	EP18X81	1000pf, 20%, 500V, Cer. Disc
C959	EP18X266	270pf, 20%, 1KV, SHiK, Cer. Dis
C961	EP31X149	10uf, 20%, 35V, Elect.
C963	ES18X13	330pf, 20%, 2KV, Cer. Disc (PC-I
C965	EP18X11	470pf, 10%, 1KV, Cer. Disc
C967	EP31X166	1uf, 20%, 50V, Elect.
C990	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C991	EP31X160	3.3uf, +50-10%, 160V, Elect.
C993	EP31X169	100uf, 20%, 10V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	EP14X187	100 ohm, 5%, 1/8W, Carbon
R102	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R103	ES14X52	1.5K ohm, 5%, 1/8W, Carbon

PC CHASSIS

R104	ES14X57	390 ohm, 5%, 1/8W, Carbon	R310	EP14X133	470K ohm, 5%, 1/8W, Carbon	* R901	EP14X113	Degaussing
R105	ES14X56	33 ohm, 5%, 1/8W, Carbon	R312	EP14X304	2.7K ohm, 5%, 1/8W, Carbon	R903	EP14X105	100K ohm, 5%, 1/2W, Carbon
R108	Common	270K ohm, 5%, 1/8W, Carbon (PC-D/E)	R316	EP14X128	330 ohm, 5%, 1/8W, Carbon	* R905	EP14X317	1.5 ohm, 10%, 5W, Wirewound
R108	EP14X133	470K ohm, 5%, 1/8W, Carbon (PC-C Only)	R318	EP14X309	39K ohm, 5%, 1/8W, Carbon (PC-D/E)	* R907	EP14X317	1.5 ohm, 10%, 5W, Wirewound
R109	ES14X58	470 ohm, 5%, 1/8W, Carbon	R318	Common	43K ohm, 5%, 1/8W, Carbon (PC-C only)	* R921	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R111	EP14X252	3.9K ohm, 5%, 1/8W, Carbon	R320	Common	1.2K ohm, 5%, 1/8W, Carbon	R923	ES14X79	1 ohm, 5%, 1/2W, Flame Proof
R112	EP14X303	470 ohm, 5%, 1/8W, Carbon	R322	ES14X58	470 ohm, 5%, 1/8W, Carbon	* R925	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R113	Common	510 ohm, 5%, 1/8W, Carbon (PC-E Only)	R326	ES14X71	1K ohm, 5%, 1/8W, Carbon	* R927	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R113	EP14X284	1K ohm, 5%, 1/8W, Carbon (PC-D/E)	R328	ES14X71	1K ohm, 5%, 1/8W, Carbon	R929	EP14X210	.82 ohm, 5%, 1W, Metal Oxide
R114	ES14X57	390 ohm, 5%, 1/8W, Carbon (PC-E Only)	R336	Common	5.1K ohm, 5%, 1/8W, Carbon	R932	Common	120 ohm, 5%, 1/4W, Carbon
R114	EP14X303	470 ohm, 5%, 1/8W, Carbon (PC-C/D)	R338	EP14X105	100K ohm, 5%, 1/8W, Carbon	R932A	Common	120 ohm, 5%, 1/4W, Carbon
R115	EP14X252	3.9K ohm, 5%, 1/8W, Carbon	R350	Common	3.6K ohm, 5%, 1/8W, Carbon	R933	Common	220K ohm, 5%, 1/2W, Carbon
R117	Common	220 ohm, 5%, 1/8W, Carbon	R352	Common	3.6K ohm, 5%, 1/8W, Carbon	* R935	EP14X131	1.8K ohm, 5%, 1/2W, Carbon
R118	Common	9.1K ohm, 5%, 1/8W, Carbon	R354	EP14X128	330 ohm, 5%, 1/8W, Carbon	* R936	EU13X4	1K ohm, 5%, 1/2W, Carbon
R119	EP14X119	68K ohm, 5%, 1/8W, Carbon	R355	EP14X128	330 ohm, 5%, 1/8W, Carbon	* R937	EP14X287	4.7 ohm, 5%, 1W, Metal Oxide
R121	EP14X125	47K ohm, 5%, 1/8W, Carbon	R356	Common	3.6K ohm, 5%, 1/8W, Carbon	R939	EP14X187	100 ohm, 5%, 1/2W, Carbon
R122	EP14X182	68 ohm, 5%, 1/8W, Carbon	R358	EP14X128	330 ohm, 5%, 1/8W, Carbon	* R941	EP14X54	18 ohm, 5%, 2W, Metal (PC-D/E)
R123	EP14X304	2.7K ohm, 5%, 1/8W, Carbon	R370	EP14X284	1K ohm, 5%, 1/8W, Carbon	* R941	EP14X154	22 ohm, 5%, 2W, Metal (PC-C Only)
R125	EP14X243	2.2K ohm, 5%, 1/8W, Carbon	R372	Common	300 ohm, 5%, 1/8W, Carbon	R951	EP14X320	68K ohm, 2%, 1W, Metal Oxide
R126	EP14X184	2.4K ohm, 5%, 1/8W, Carbon	R380	ES14X65	4.7K ohm, 5%, 1/8W, Carbon	R952	Common	1.8 meg, ohm, 5%, 1/4W, Carbon
R128	EP14X185	120K ohm, 5%, 1/8W, Carbon	R381	EP14X180	5.6K ohm, 5%, 1/8W, Carbon	R954	EP14X105	100K ohm, 5%, 1/4W, Carbon
R129	ES14X59	560 ohm, 5%, 1/8W, Carbon	R389	Common	820K ohm, 10%, 1/8W, Carbon	R955	EP14X252	3.9K ohm, 2%, 1/8W, Carbon
R130	EP14X304	2.7K ohm, 5%, 1/8W, Carbon	R390	Common	200 ohm, 5%, 1/8W, Carbon (PC-C/D)	R957	EP14X284	1K ohm, 5%, 1/8W, Carbon
R131	EP14X288	18K ohm, 5%, 1/8W, Carbon	R391	Common	5.1K ohm, 5%, 1/8W, Carbon	R959	EP14X284	1K ohm, 5%, 1/8W, Carbon
R133	ES14X71	1K ohm, 5%, 1/8W, Carbon	R503	EP14X323	6.8K ohm, 5%, 3W, Flame Proof	R961	ES14X71	1K ohm, 5%, 1/8W, Carbon
R134	Common	120 ohm, 5%, 1/4W, Carbon	R506	Common	5.1K ohm, 5%, 1/8W, Carbon	R963	Common	220 ohm, 5%, 1/8W, Carbon
R135	Common	220 ohm, 5%, 1/4W, Carbon	R507	Common	11K ohm, 5%, 1/8W, Carbon	R965	Common	6.2K ohm, 5%, 1/8W, Carbon
R136	EP14X239	750 ohm, 5%, 1/8W, Carbon	R508	EP14X188	15 ohm, 5%, 1/8W, Carbon	R969	ES14X56	33 ohm, 5%, 1/2W, Carbon
R180	ES14X71	1K ohm, 5%, 1/8W, Carbon	R509	EP14X119	68K ohm, 5%, 1/8W, Carbon	R971	EP14X128	330 ohm, 5%, 1/2W, Carbon
R181	EP14X243	2.2K ohm, 5%, 1/8W, Carbon	R511	EP14X103	10K ohm, 5%, 1/8W, Carbon	R973	ES14X58	470 ohm, 5%, 1/2W, Carbon
R182	EP14X284	1K ohm, 5%, 1/8W, Carbon	R513	EP14X103	10K ohm, 5%, 1/4W, Carbon	* R975	EP14X275	1K ohm, 10%, 3W, Wirewound
R183	EP14X284	1K ohm, 5%, 1/8W, Carbon	R515	EP14X112	1 meg ohm, 5%, 1/8W, Carbon	R981	EP14X318	3 ohm, 10%, 5W, Wirewound
R186	Common	300 ohm, 5%, 1/8W, Carbon	R516	Common	150K ohm, 5%, 1/8W, Carbon	* R983	EP14X368	1.6K ohm, 5%, 1W, Metal Oxide (PC-E Only)
R188	EP14X271	82K ohm, 5%, 1/8W, Carbon (PC-D/E)	R517	Common	110K ohm, 5%, 1/8W, Carbon (PC-C Only)	* R983	EP14X321	470 ohm, 5%, 2W, Metal Oxide (PC-C/D)
R188	Common	62K ohm, 5%, 1/8W, Carbon (PC-C Only)	R518	Common	240K ohm, 5%, 1/8W, Carbon	R985	Common	240 ohm, 5%, 1/8W, Carbon
R190	Common	62K ohm, 5%, 1/8W, Carbon	R519	Common	62K ohm, 5%, 1/8W, Carbon	R990	EP14X269	20 ohm, 5%, 1/2W, Carbon
R191	ES14X71	1K ohm, 5%, 1/8W, Carbon	R521	EP14X187	100 ohm, 5%, 1/8W, Carbon	R996	EP14X250	2.2K ohm, 5%, 1/8W, Carbon
* R192	EP14X329	200 ohm, 5%, 1/2W, Carbon Fl. Proof	R523	ES14X57	390 ohm, 5%, 1/8W, Carbon	R998	Common	27K ohm, 5%, 1/4W, Carbon
R193	Common	36K ohm, 5%, 1/4W, Carbon	R525	EP14X304	2.7K ohm, 5%, 1/8W, Carbon (PC-C Only)			
R194	EP14X103	10K ohm, 5%, 1/8W, Carbon	R527	EP14X180	5.6K ohm, 5%, 1/8W, Carbon (PC-C Only)			
R195	EP14X180	5.6K ohm, 5%, 1/8W, Carbon	R529	Common	270 ohm, 5%, 1/8W, Carbon (PC-C Only)			
R198	EP14X271	8.2K ohm, 5%, 1/8W, Carbon	R531	ES14X56	33 ohm, 5%, 1/8W, Carbon			
R200	ES14X69	56 ohm, 5%, 1/8W, Carbon	R533	EP14X303	22K ohm, 5%, 1/8W, Carbon (PC-E Only)			
R202	EP14X285	20K ohm, 5%, 1/8W, Carbon	R535	EP14X103	10K ohm, 5%, 1/8W, Carbon (PC-C/D)			
R204	Common	1.2K ohm, 5%, 1/8W, Carbon	R537	EP14X125	47K ohm, 5%, 1/8W, Carbon			
R206	EP14X190	1.8K ohm, 5%, 1/8W, Carbon	R601	EP14X285	15K ohm, 5%, 1/8W, Carbon			
R208	EP14X303	22K ohm, 5%, 1/8W, Carbon	R602	EP14X284	10K ohm, 5%, 1/8W, Carbon (PC-D Only)			
R209	EP14X187	68 ohm, 5%, 1/8W, Carbon	R603	ES14X51	47 ohm, 5%, 1/8W, Carbon			
R210	EP14X329	200 ohm, 5%, 1/8W, Carbon	R605	EP14X103	10K ohm, 5%, 1/8W, Carbon			
R211	Common	4.3K ohm, 5%, 1/8W, Carbon (PC-E Only)	R609	EP14X122	7.5K ohm, 5%, 1/8W, Carbon			
R211	EP14X249	4.7K ohm, 5%, 1/8W, Carbon (PC-C/D)	R611	EP14X128	330 ohm, 5%, 1/8W, Carbon			
R212	EP14X284	12K ohm, 5%, 1/8W, Carbon	R613	EP14X243	2.2K ohm, 5%, 1/8W, Carbon			
R213	EP14X140	330K ohm, 5%, 1/8W, Carbon (PC-E Only)	R615	EP14X285	20K ohm, 5%, 1/8W, Carbon			
R213	EP14X271	82K ohm, 5%, 1/8W, Carbon (PC-C/D)	R617	Common	220 ohm, 5%, 1/8W, Carbon			
R216	Common	330 ohm, 5%, 1/8W, Carbon	R621	EP14X272	6.8 ohm, 5%, 1W, Metal Oxide			
R218	EP14X283	680 ohm, 5%, 1/8W, Carbon	R623	EP14X271	8.2K ohm, 5%, 1/8W, Carbon			
R220	EP14X189	1.1K ohm, 5%, 1/8W, Carbon	R625	Common	220 ohm, 5%, 1/8W, Carbon			
R221	EP14X293	680K ohm, 5%, 1/8W, Carbon	R627	EP14X243	2.2K ohm, 5%, 1/8W, Carbon			
R222	Common	150K ohm, 5%, 1/8W, Carbon (PC-E Only)	R631	EP14X309	6.8K ohm, 5%, 1/8W, Carbon			
R222	EP14X271	82K ohm, 5%, 1/8W, Carbon (PC-C/D)	R633	EP14X271	8.2K ohm, 5%, 1/8W, Carbon			
R224	EP14X309	6.8K ohm, 5%, 1/8W, Carbon	R635	Common	180 ohm, 5%, 1/8W, Carbon			
R226	ES14X59	560 ohm, 5%, 1/8W, Carbon	R637	EP14X187	100 ohm, 5%, 1/8W, Carbon			
R228	ES14X65	4.7K ohm, 5%, 1/8W, Carbon	R639	ES14X71	1K ohm, 5%, 1/8W, Carbon			
R230	ES14X71	1K ohm, 5%, 1/8W, Carbon	R641	EP14X188	15 ohm, 5%, 1/2W, Carbon			
R234	EP14X288	18K ohm, 5%, 1/8W, Carbon	* R643	EP14X102	560 ohm, 5%, 1W, Metal Oxide			
R240	ES14X71	1K ohm, 5%, 1/8W, Carbon	* R645	EP14X102	560 ohm, 5%, 1W, Metal Oxide			
R250	ES14X62	1.5K ohm, 5%, 1/8W, Carbon	* R647	EP14X230	1.5K ohm, 5%, 3W, Flame Proof			
R252	EP14X303	22K ohm, 5%, 1/8W, Carbon	R649	EP14X183	3.3K ohm, 5%, 1/4W, Carbon			
R254	EP14X105	100K ohm, 5%, 1/8W, Carbon	R651	Common	10 ohm, 5%, 1/2W, Carbon			
R256	EP14X184	2.4K ohm, 5%, 1/8W, Carbon	* R653	EP14X220	180 ohm, 5%, 2W, Metal Oxide			
R258	EP14X285	15K ohm, 5%, 1/8W, Carbon	R655	Common	2.7K ohm, 5%, 1/2W, Carbon			
R270	EP14X284	10 ohm, 5%, 1/8W, Carbon	* R702	EP14X230	1.5K ohm, 5%, 3W, Flame Proof			
R300	Common	36K ohm, 5%, 1/8W, Carbon	* R703	EP14X262	.47 ohm, 5%, 2W, Metal Oxide			
R302	EP14X285	15K ohm, 5%, 1/8W, Carbon	* R707	EP14X62	1.5K ohm, 5%, 2W, Metal Oxide			
			* R900	EP14X106	1 meg ohm, 5%, 1/2W, Carbon			

REF. NO.	PART NO.	DESCRIPTION
R116	EP49X463	RF/AFC, 5K ohm, 20%
R124	EP49X463	IF/AGC, 5K ohm, 20%
R214	EP49X464	Sharpness, 1K ohm, 20%
R262	EP49X463	Brightness, 5K ohm, 20%
R330	EP49X465	APC, 50K ohm, 20%
R505	EP49X463	Horiz. Hold, 5K ohm, 20%
R619	EP49X466	Vert. Height, 250 ohm, 20%
R629	EP49X467	Vert. Hold, 10K ohm, 20%
R657	EP49X465	Vert. Centering, 50K ohm, 20%
R953	EP49X468	Reg., 1K ohm, 20%

REF. NO.	PART NO.	DESCRIPTION
* IC101	EP84X213	VIF/Det/AFC
IC190	EP84X216	IF/Sound
IC300	EP84X221	Chroma/Video
IC501	EP84X215	Sync. Sep.
IC901	EP84X217	12V, 3 Ter. Regulator

REF. NO.	PART NO.	DESCRIPTION
SCR903	EP15X217	SCR Regulator, PNP
Q105	EP15X104	Pre Amp, HF, BiPolar
Q110	EP15X87	Video Emitter Follower NPN, Silicon
Q190	EP15X19	Audio Output, NPN, Silicon
Q192	EP15X19	Audio Output, NPN, Silicon
Q200	EP15X88	Regulator, NPN, Silicon
Q202	EP15X48	Beam Limiter, PNP, Silicon

19PC-F/H MAIN CHASSIS REPLACEMENT PARTS LIST

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create shock, fire or other hazards, or excessive X-Radiation.

CIRCUIT BOARD ASSEMBLIES

PART NO.	DESCRIPTION
EP93X550	Main Circuit Board
EP93X536	RGB Circuit Board
EP93X536	Horiz. Heat Sink Circuit Board
EP93X462	VIR Circuit Board

L50	ES36X82	CHOKE-220uh, 10%
L1901	EP36X443	COIL-Width
* T701	EP77X64	TRANSFORMER-H.V.
* T1901	EP36X444	COIL-Pincushion Asm.
	EP88X46	TRANSFORMER-For Tuner Control Bd.

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP60X13	AIR GAP-For H. V. T.
	EP90X40	ADAPTOR-75 to 300 ohm (Antenna)
	EP8X36	ANODE-CRT Connector
	EP2X544	BRACKET-Ckt. Bd. Support, Plastic
	EP2X546	BRACKET-CRT Ground Terminal
	EP2X543	BRACKET-H.V.T. Brace, Plastic
	EP2X539	BRACKET-H.V.T. Support, Plastic
	EP2X271	BRACKET-Rib Boss For Cabinet Front
	EP2X542	BRACKET-VIR Board Support, Plastic
	EP2X548	BRACKET-Anode Lead Dress
	EP8X51	CABLE-Coaxial, 7" W/Phono Plugs
	EP8X60	CABLE-Antenna Bracket To Tuner
	EP8X124	CABLE-ET91 to UHF & KMP To UHF

EP2X90	CLAMP-Yoke & Conv. Retainer
EP3X4	CLIP-Upper CRT Bkt-Tuner
EP2X545	CLIP-Chassis Mounting (Uses 2)
EP2X548	CLIP-Anode Retainer, Plastic
EP3X57	CLIP-Anode Retainer
EP8X93	CONNECTOR-5 Pos.
EP8X90	CONNECTOR-3 Pos.
EP8X30	CONNECTOR-1 Pos.
EP8X71	CONNECTOR-6 Pos.
EP8X66	CONNECTOR-7 Pos.
EP8X68	CONNECTOR-2 Pos.
EP8X90	CONNECTOR-3 Pos.
EP8X94	CONNECTOR-3 Pos.
EP8X30	CONNECTOR-1 Pin
EP8X66	CONNECTOR-7 Pos.
EP8X90	CONNECTOR-5 Pos.
EP8X42	CONNECTOR-4 Pins
EP8X43	CONNECTOR-2 Pins
EP8X43	CONNECTOR-2 Pins
EP8X90	CONNECTOR-5 Pos.
EP8X135	CONNECTOR-16 Pos.

EP8X91	CONNECTOR-9 Pos.
EP8X43	CONNECTOR-2 Pins
EP8X92	CONNECTOR-8 Pos.
* EP66X19	CORD-AC Power, Polarized, Wired In-Type
EP3X53	CUSHION-Yoke Wedge
EP92X101	FRAME-Front & Sides, For Main Board Support, Plastic
EP92X102	FRAME-Rear Support, For Main Board, Plastic

* F901	EP10X19	FUSE-4 amp, 250V, Snap-In, Fast Acting
* F903	EP10X27	FUSE-1.25 amp, 250V, Snap-In, Fast Acting (PC-F only)
* F903	EP10X57	FUSE-1.25 amp, 250V, Snap-In, Med Acting (PC-H only)
	EP34X65	SOCKET-CRT
SG4000	EP41X145	SPARK GAP-(On Units W/Mechanical Tuners)
	EP2X534	SPRING-Ground, CRT (Uses 2)
	EP2X535	STRAPS-Degaussing Coil Adjust
	EP90X3	Wire Tie

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C103	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C104	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C105	ES25X21	.15uf, 20%, 50V, Polyester
C106	EP31X159	470uf, 20%, 16V, Elect.
C110	EP18X259	1000pf, 10%, 500V, HiK, Cer. Disc
C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
C113	EP18X197	.01uf, 10%, 50V, SHiK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, Cer. Disc
C115	EP18X101	13pf, 5%, 50V, NPO, Cer. Disc
C116	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C117	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C118	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C119	EP31X170	4.7uf, 20%, 35V, Elect.
C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
C121	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C124	EP18X185	18pf, 5%, 50V, NPO, Cer. Disc
C125	EP31X45	47uf, 20%, 10V, Elect.
C126	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C127	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C135	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C136	EP18X259	1000pf, 10%, 500V, Cer. Disc
C137	EP18X259	1000pf, 10%, 500V, Cer. Disc
C139	EP18X259	1000pf, 10%, 500V, HiK, Cer. Disc
C142	EP18X259	1000pf, 20%, 500V, HiK, Cer. Disc
C180	EP18X189	47pf, 5%, 50V, Cer. Disc
C182	EP18X189	47pf, 5%, 50V, Cer. Disc
C183	EP31X149	10uf, 20%, 35V, Elect.
C184	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C185	EP31X149	10uf, 20%, 35V, Elect.
C186	EP25X130	.022uf, 10%, 50V, Polyester
C187	EP31X177	470uf, 20%, 50V, Elect.
C188	EP25X165	4700pf, 10%, 50V, Polyester
C189	EP31X149	10uf, 20%, 35V, Elect.
C190	EP31X149	10uf, 20%, 35V, Elect.
C191	EP25X13	.027uf, 10%, 50V, Polyester
C192	EP31X45	47uf, 20%, 35V, Elect.
C193	EP18X113	150pf, 5%, 50V, NPO, Cer. Disc
C194	EP31X141	220uf, 20%, 25V, E ect.
C195	EP18X182	5.6pf, 10%, 50V, Cer. Disc
C197	EP31X170	4.7uf, 20%, 35V, Elect.
C198	EP31X149	10uf, 20%, 35V, Elect.
C199	EP18X169	.01uf, 30%, 25V, Cer. Disc
C200	EP18X274	1500pf, 10%, 50V, SHiK, Cer. Disc
C202	EP31X149	10uf, 10%, 35V, Elect.

C204	EP18X169	.01uf, 30%, 25V, Cer. Disc
C206	EP31X172	22uf, 20%, 25V, Elect.
C208	EP18X172	.47uf, 20%, 50V, Elect.
C210	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C216	EP31X149	10uf, 10%, 35V, Elect.
C218	EP31X166	1uf, 20%, 50V, Elect.
C234	EP31X88	47uf, 10%, 16V, Elect.
C236	EP18X169	.01uf, 30%, 25V, Elect.
C240	ES18X56	18pf, 10%, 500V, Cer. Disc
C250	EP25X77	.1uf, 20%, 50V, Polyester
C256	EP31X172	22uf, 20%, 25V, Elect.
C300	EP31X175	33uf, + 50-20%, 10V, Elect.
C302	EP31X178	1uf, 10%, 16V, Tantalum
C306	EP18X280	82pf, 5%, 50V, Cer. Disc
C308	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C312	EP18X198	2200pf, 30%, 25V, HiK, Cer. Disc
C314	EP18X202	220pf, 10%, 50V, NPO, Cer. Disc
C316	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C320	EP18X219	30pf, 5%, 50V, Cer. Disc
C322	EP18X32	36pf, 5%, 50V, Cer. Disc
C326	EP25X124	.033uf, 20%, 50V, Polyester
C328	EP31X149	10uf, 20%, 35V, Elect.
C330	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
C334	EP18X194	100pf, 5%, 50V, Cer. Disc
C336	EP31X166	1uf, 20%, 50V, Elect.
C350	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C352	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C354	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C370	EP25X87	.047uf, 20%, 50V, Polyester
C372	EP18X223	180pf, 10%, 50V, HiK, Cer. Disc
C373	EP18X169	.01uf, 30%, 25V, NPO, Cer. Disc
C390	EP18X220	1000pf, + 80-20%, 500V, HiK Cer Disc
C391	EP31X166	1uf, 20%, 50V, Elect.
C392	EP31X149	10uf, 20%, 35V, Elect.
C393	EP18X259	1000pf, 10%, 500V, HiK, Cer. Disc
C394	EP18X220	1000pf, + 80-20%, 500V, HiK Cer Disc
C395	EP31X166	1uf, 20%, 50V, Elect.
C501	EP31X170	4.7uf, 20%, 35V, Elect.
C503	EP25X149	5600pf, 5%, 100V, Polypropylene
C505	EP31X178	1uf, 10%, 16V, Tantalum
C506	EP25X150	6800pf, 10%, 50V, Polyester
C507	EP25X87	.047uf, 10%, 50V, Polyester
C509	EP25X80	.015uf, 10%, 50V, Polyester
C513	EP31X149	10uf, 20%, 35V, Elect.
C514	EP22X5	680pf, 10%, 50V, Cer. Disc
C515	EP31X166	1uf, 20%, 50V, Elect.
C517	EP25X183	.022uf, 10%, 50V, Polyester
C521	EP25X80	.015uf, 10%, 50V, Polyester
C523	EP25X77	.1uf, 20%, 50V, Polyester
C601	EP25X171	.033uf, 10%, 50V, Polyester
C603	EP31X149	10uf, 20%, 35V, E ect.
C605	EP18X229	6800pf, 10%, 50V, SHiK, Cer. Disc
C607	EP31X141	220uf, 20%, 16V, Elect.
C609	EP31X166	1uf, 20%, 50V, Elect.
C611	EP25X183	.022uf, 10%, 50V, Polyester
C613	EP18X286	180pf, 5%, 500V, Cer. Disc
C614	EP31X172	22uf, 20%, 25V, Elect.
C615	EP31X151	2.7uf, 20%, 160V, Elect.
C617	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C621	EP31X169	100uf, 20%, 50V, Elect.
C623	EP31X178	1uf, 10%, 35V, Tantalum
C701	EP25X110	3300pf, 10%, 200V, Mylar
C703	EP18X217	330pf, 10%, 500V, SHiK, Cer. Disc
C705	EP25X148	.027uf, 10%, 100V, Polyester

PC CHASSIS

C706	EP25X146	.033μf, 20%, 200V, Mylar
C901	EP18X285	1000pf, + 100-0%, 1KV, Cer. Disc
★C902	EP31X66	330μf, 20%, 180V, Elect.
C903	EP18X285	1000pf, + 100-0%, 1KV, Cer. Disc
★C904	EP31X109	100μf, 10%, 160V, Elect.
C905	EP18X285	1000pf, + 100-0%, 1KV, Cer. Disc
★C906	EP31X156	10μf, + 50-20%, 180V, Elect.
C907	EP18X285	1000pf, + 100-0%, 1KV, Cer. Disc
C921	EU22X76	1000pf, 20%, 500V, HiK, Cer. Disc
C923	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C924	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C925	EP31X159	470μf, 20%, 25V, Elect.
C927	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C929	EP18X81	1000pf, 20%, 500V, Cer. Disc
C931	EP31X157	220μf, 20%, 100V, Elect.
C933	EP25X89	.047μf, 20%, 300V, Mylar
C935	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C937	EP18X81	1000pf, 20%, 500V, Cer. Disc
C938	EP18X217	330pf, 10%, 500V, Cer. Disc
C939	EP31X155	4.7μf, + 50-20%, 160V, Elect.
C941	EP18X132	8200pf, 10%, 500V, Cer. Disc
C943	EP31X45	47μf, 20%, 16V, Elect.
C945	EP31X166	1μf, 20%, 50V, Elect.
C947	EP18X118	.1μf, 10%, 25V, Cer. Disc
C953	EP25X161	1800pf, 10%, 200V, Mylar
C955	EP20X20	.047μf, 10%, 200V, Mylar
C957	EP18X81	1000pf, 20%, 500V, Cer. Disc
C959	EP18X266	270pf, 20%, 1KV, SHiK, Cer. Disc
C961	ES31X32	100μf, 20%, 10V, Elect.
C963	ES18X13	330pf, 20%, 2KV, Cer. Disc
C965	EP18X11	470pf, 10%, 1KV, Cer. Disc
C967	EP31X166	1μf, 20%, 50V, Elect.
C990	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C991	EP31X160	3.3μf, + 50-10%, 160V, Elect.
C993	EP31X169	100μf, 20%, 10V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	ES14X70	100 ohm, 5%, 1/4W, Carbon
R102	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
R103	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
R104	ES14X57	390 ohm, 5%, 1/4W, Carbon
R105	ES14X56	33 ohm, 5%, 1/4W, Carbon
R108	EP14X97	270K ohm, 5%, 1/4W, Carbon
R109	EP14X318	220 ohm, 5%, 1/8W, Carbon
R113	EP14X373	510 ohm, 5%, 1/8W, Carbon
R114	ES14X57	390 ohm, 5%, 1/4W, Carbon
R115	EP14X407	3.9K ohm, 5%, 1/8W, Carbon
R117	EP14X318	220 ohm, 5%, 1/4W, Carbon
R118	EP14X370	9.1K ohm, 5%, 1/4W, Carbon
R119	EP14X119	68K ohm, 5%, 1/4W, Carbon
R121	EP14X131	47K ohm, 5%, 1/4W, Carbon
R122	EP14X182	68 ohm, 5%, 1/4W, Carbon
R123	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
R125	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R126	EP14X184	2.4K ohm, 5%, 1/8W, Carbon
R128	EP14X185	120K ohm, 5%, 1/4W, Carbon
R129	ES14X59	560 ohm, 5%, 1/4W, Carbon
R130	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
R131	EP14X414	18K ohm, 5%, 1/4W, Carbon
R133	ES14X71	1K ohm, 5%, 1/4W, Carbon
R134	EP14X378	120 ohm, 5%, 1/4W, Carbon
R135	EP14X318	220 ohm, 5%, 1/4W, Carbon
R136	EP14X385	750 ohm, 5%, 1/8W, Carbon

R140	EP14X249	4.7K ohm, 5%, 1/8W, Carbon
R180	ES14X71	1K ohm, 5%, 1/4W, Carbon
R181	EP14X442	160 ohm, 5%, 5W, Wirewound
R182	EP14X284	1K ohm, 5%, 1/8W, Carbon
R183	EP14X284	1K ohm, 5%, 1/8W, Carbon
R184A	EP14X115	430 ohm, 5%, 2W, Carbon
R184B	EP14X228	390 ohm, 5%, 2W, Metal Oxide
R185	ES14X71	1K ohm, 5%, 1/4W, Carbon
R186	ES14X61	820 ohm, 5%, 1/4W, Carbon
R187	ES14X71	1K ohm, 5%, 1/4W, Carbon
R188	EP14X434	39 ohm, 5%, 1/4W, Carbon
R189	ES14X80	2.2 ohm, 5%, 1/2W, Carbon
R190	ES14X80	2.2 ohm, 5%, 1/2W, Carbon
R191	EP14X447	39K ohm, 5%, 1/4W, Carbon
★R192	EP14X380	27K ohm, 5%, 1/4W, Carbon
R193	EP14X421	4.3K ohm, 5%, 1/4W, Carbon
R194	EP14X103	10K ohm, 5%, 1/4W, Carbon
R195	EP14X400	2.7K ohm, 5%, 1/4W, Carbon
R196	EP14X105	100K ohm, 5%, 1/4W, Carbon
R197	EP14X400	2.7K ohm, 5%, 1/4W, Carbon
R198	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R199	EP14X409	10 ohm, 5%, 1/4W, Carbon
R200	ES14X69	56 ohm, 5%, 1/4W, Carbon
R202	EP14X285	20K ohm, 5%, 1/8W, Carbon
R204	EP14X444	1.2K ohm, 5%, 1/8W, Carbon
R206	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R208	EP14X303	22K ohm, 5%, 1/8W, Carbon
R209	EP14X428	82 ohm, 5%, 1/4W, Carbon
R210	EP14X220	180 ohm, 5%, 1/4W, Carbon
R211	EP14X421	4.3K ohm, 5%, 1/8W, Carbon
R212	EP14X284	12K ohm, 5%, 1/8W, Carbon
R213	EP14X140	330K ohm, 5%, 1/8W, Carbon
R216	EP14X420	270 ohm, 5%, 1/8W, Carbon
R217	ES14X61	820 ohm, 5%, 1/8W, Carbon
R218	EP14X289	430 ohm, 5%, 1/8W, Carbon
R220	EP14X283	680 ohm, 5%, 1/8W, Carbon
R221	EP14X293	680K ohm, 5%, 1/4W, Carbon
R222	EP14X415	82K ohm, 5%, 1/4W, Carbon
R224	EP14X103	10K ohm, 5%, 1/8W, Carbon
R226	ES14X59	560 ohm, 5%, 1/4W, Carbon
R228	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R230	ES14X71	1K ohm, 5%, 1/4W, Carbon
R234	EP14X414	18K ohm, 5%, 1/4W, Carbon
R240	ES14X71	1K ohm, 5%, 1/4W, Carbon
R250	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
R252	EP14X303	22K ohm, 5%, 1/8W, Carbon
R254	EP14X105	100K ohm, 5%, 1/8W, Carbon
R256	EP14X411	2.4K ohm, 5%, 1/4W, Carbon
R258	EP14X398	15K ohm, 5%, 1/4W, Carbon
R270	EP14X284	10 ohm, 5%, 1/8W, Carbon
R300	EP14X426	36K ohm, 5%, 1/4W, Carbon
R302	EP14X370	9.1K ohm, 5%, 1/4W, Carbon
R310	EP14X133	470K ohm, 5%, 1/8W, Carbon
R312	EP14X400	2.7K ohm, 5%, 1/4W, Carbon
R316	EP14X128	330 ohm, 5%, 1/4W, Carbon
R318	EP14X447	39K ohm, 5%, 1/4W, Carbon
R320	EP14X444	1.2K ohm, 5%, 1/8W, Carbon
R322	ES14X58	470 ohm, 5%, 1/4W, Carbon
R326	ES14X71	1K ohm, 5%, 1/4W, Carbon
R328	ES14X71	1K ohm, 5%, 1/4W, Carbon
R336	EP14X381	3K ohm, 5%, 1/4W, Carbon
R338	EP14X105	100K ohm, 5%, 1/4W, Carbon
R350	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
R352	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
R354	EP14X128	330 ohm, 5%, 1/4W, Carbon
R355	EP14X128	330 ohm, 5%, 1/4W, Carbon

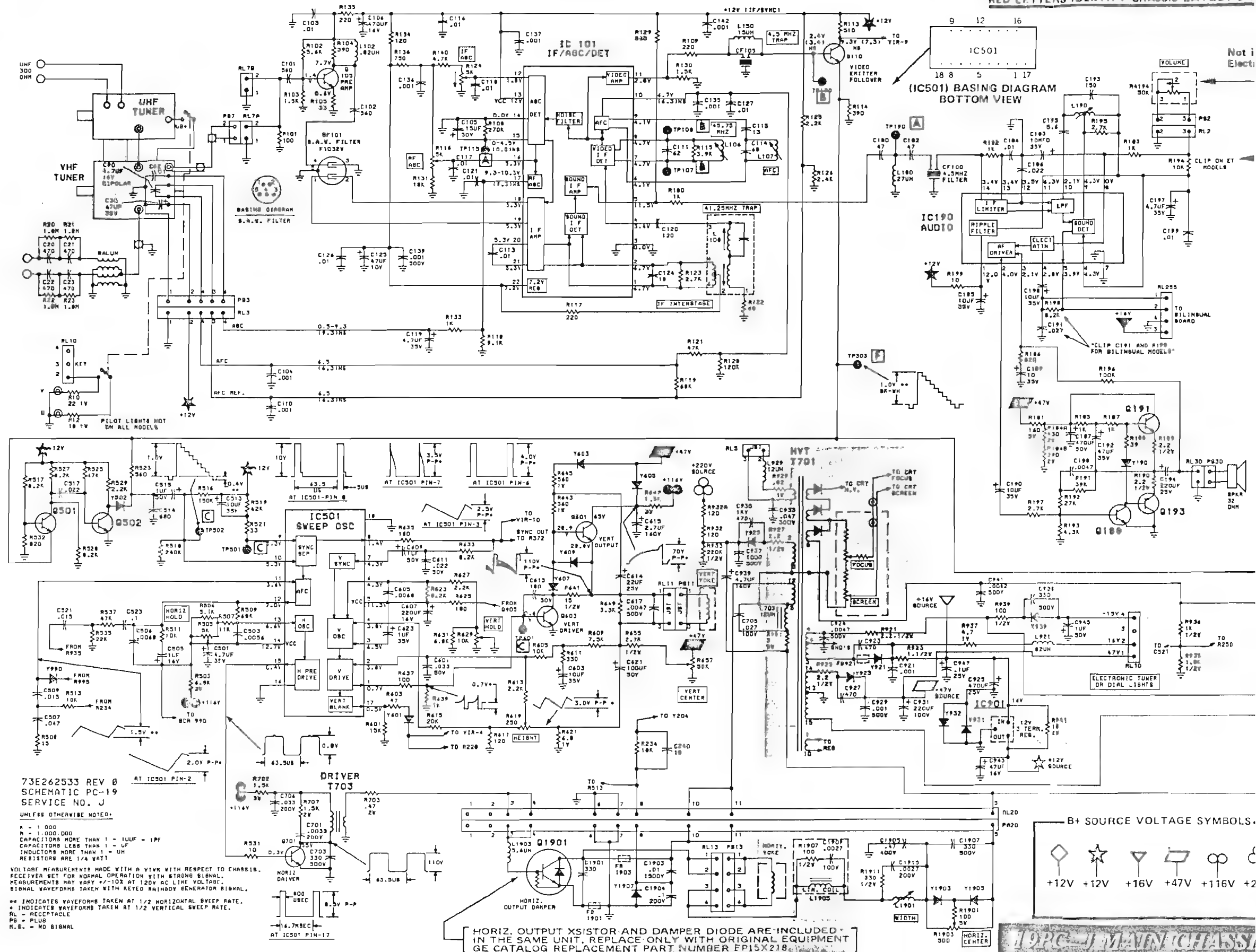
R356	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
R358	EP14X128	330 ohm, 5%, 1/4W, Carbon
R370	EP14X284	1K ohm, 5%, 1/8W, Carbon
R372	EP14X402	300 ohm, 5%, 1/4W, Carbon
R380	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R381	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R389	EP14X382	820K ohm, 5%, 1/4W, Carbon
R391	EP14X418	5.1K ohm, 5%, 1/4W, Carbon
R503	EP14X323	6.8K ohm, 5%, 3W, Flame Proof
R506	EP14X418	5.1K ohm, 5%, 1/4W, Carbon
R507	EP14X376	11K ohm, 5%, 1/4W, Carbon
R508	EP14X188	15 ohm, 5%, 1/4W, Carbon
R509	EP14X119	68K ohm, 5%, 1/4W, Carbon
R511	EP14X103	10K ohm, 5%, 1/8W, Carbon
R513	EP14X103	10K ohm, 5%, 1/4W, Carbon
R516	EP14X453	150K ohm, 5%, 1/4W, Carbon
R517	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R518	EP14X425	240K ohm, 5%, 1/4W, Carbon
R519	EP14X422	62K ohm, 5%, 1/4W, Carbon
R521	ES14X56	33 ohm, 5%, 1/4W, Carbon
R523	ES14X59	560 ohm, 5%, 1/4W, Carbon
R525	EP14X131	47K ohm, 5%, 1/4W, Carbon
R527	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R528	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R529	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R531	EP14X409	10 ohm, 5%, 1/4W, Carbon
R532	ES14X61	820 ohm, 5%, 1/4W, Carbon
R535	EP14X104	22K ohm, 5%, 1/4W, Carbon
R537	EP14X131	47K ohm, 5%, 1/4W, Carbon
R601	EP14X398	15K ohm, 5%, 1/4W, Carbon
R603	ES14X51	47 ohm, 5%, 1/4W, Carbon
R605	EP14X103	10K ohm, 5%, 1/4W, Carbon
R609	EP14X122	7.5K ohm, 5%, 1/4W, Carbon
R611	EP14X128	330 ohm, 5%, 1/4W, Carbon
R613	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R615	EP14X285	20K ohm, 5%, 1/8W, Carbon
R617	EP14X129	220 ohm, 5%, 1/4W, Carbon
R621	EP14X388	6.8 ohm, 5%, 1W, Metal Oxide
R623	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R625	EP14X220	180 ohm, 5%, 1/4W, Carbon
R627	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R631	EP14X456	6.8K ohm, 5%, 1/4W, Carbon
R633	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R635	EP14X220	180 ohm, 5%, 1/8W, Carbon
R637	ES14X70	100 ohm, 5%, 1/4W, Carbon
R639	ES14X71	1K ohm, 5%, 1/4W, Carbon
R641	EP14X188	15 ohm, 5%, 1/2W, Carbon
★R643	EP14X102	560 ohm, 5%, 1W, Metal Oxide
★R645	EP14X102	560 ohm, 5%, 1W, Metal Oxide
★R647	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R649	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
R655	EP14X130	2.7K ohm, 5%, 1/2W, Carbon
★R702	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
★R703	EP14X348	.47 ohm, 5%, 2W, Metal Oxide
★R707	EP14X62	1.5K ohm, 5%, 2W, Metal Oxide
★R900	EP14X106	1 meg ohm, 5%, 1/2W, Carbon
★R901	EP14X113	THERMISTOR
R903	EP14X105	100K ohm, 5%, 1/2W, Carbon
★R905	EP14X317	1.5 ohm, 10%, 5W, Wirewound
★R907	EP14X317	1.5 ohm, 10%, 5W, Wirewound
★R921	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R923	ES14X79	1 ohm, 5%, 1/2W, Flame Proof
★R925	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
★R927	ES14X80	2.2 ohm, 5%, 1/2W, Flame Proof
R929	EP14X210	.82 ohm, 5%, 1W, Metal Oxide
R932	EP14X378	120 ohm, 5%, 1/4W, Carbon

(CONTINUED)

19PC-J CHASSIS

SEE SECTION ON ELECTRONIC TUNING SYSTEMS FOR SERVICE INFORMATION ON ALL ELECTRONIC TUNING MODELS.

RED LETTERS IDENTIFY CHASSIS LAYOUT GR



Replace CRT (V401) with the same type in the receiver or factory authorized substitute only. See Model Page in Service Manual or CRT Label for correct CRT replacement part Number.

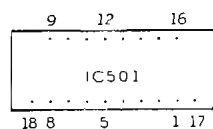
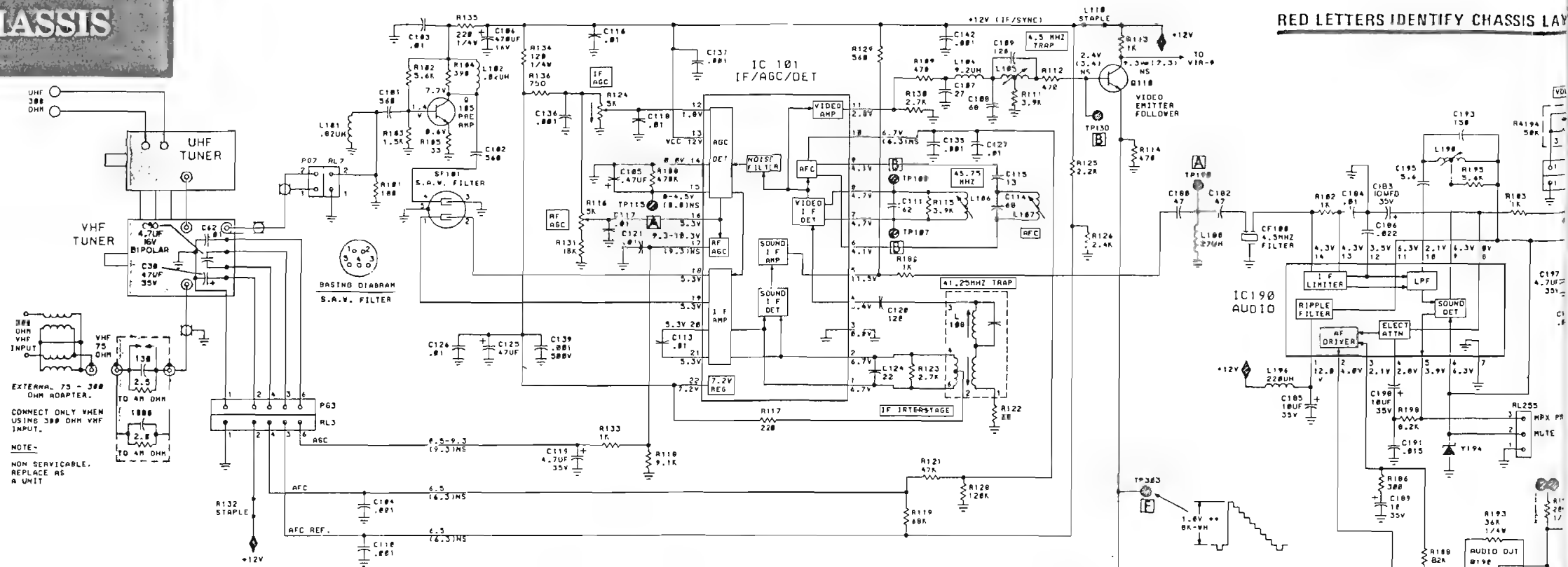


Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create shock, fire or other hazards, or excessive X-Radiation.

25PC-C CHASSIS

SEE SECTION ON ELECTRONIC TUNING SYSTEMS FOR SERVICE INFORMATION ON ALL ELECTRONIC TUNING MODELS.

RED LETTERS IDENTIFY CHASSIS LAY



BASING DIAGRAM (IC501) BOTTOM VIEW

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

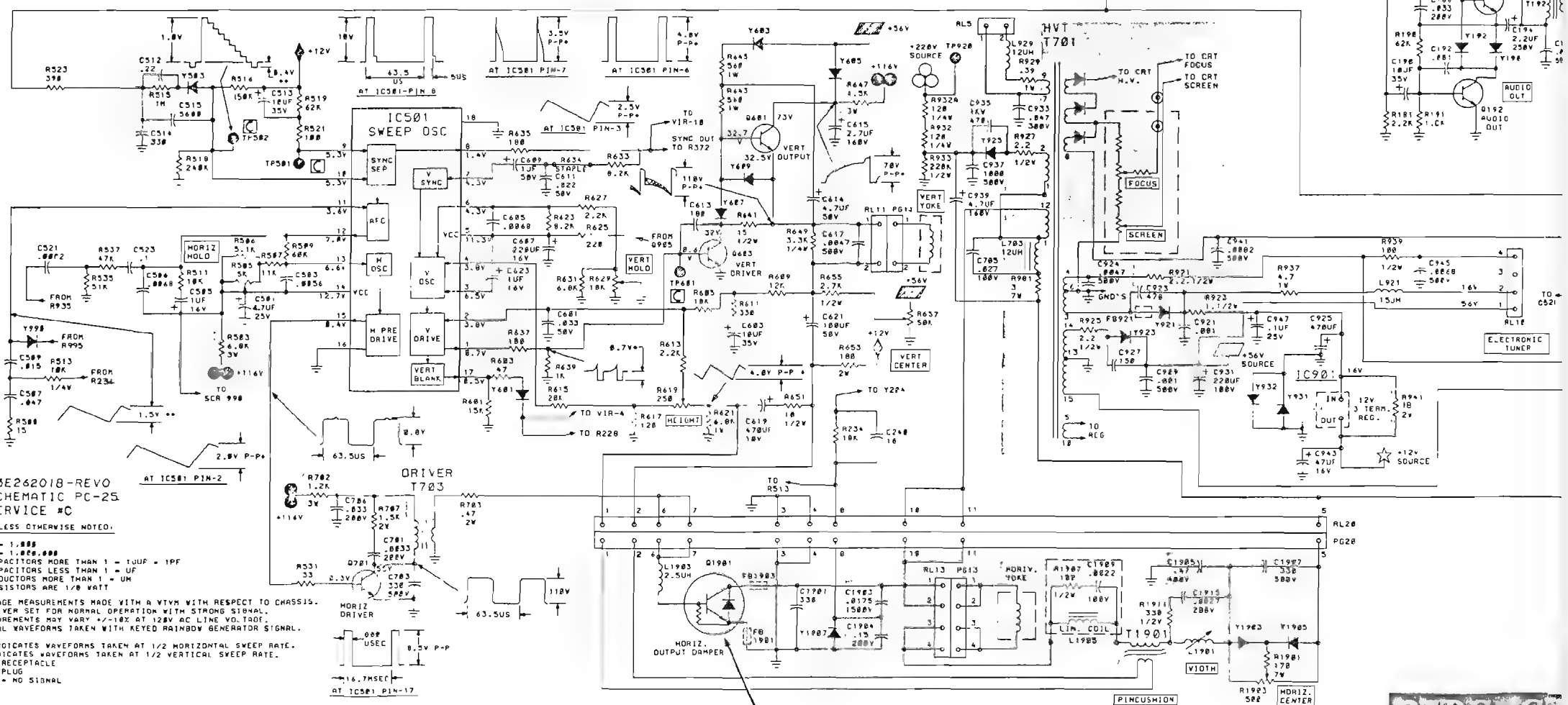
73E262018-REVO SCHEMATIC PC-25 SERVICE #C

UNLESS OTHERWISE NOTED:

K = 1.000
M = 1.000.000
CAPACITORS MORE THAN 1 = 100P = 10PF
CAPACITORS LESS THAN 1 = UF
INDUCTORS MORE THAN 1 = OHM
RESISTORS ARE 1/4 WATT

VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS. RECEIVER SET FOR NORMAL OPERATION WITH STRONG SIGNAL. MEASUREMENTS MAY VARY +/- 10% AT 120V AC LINE VOLTAGE. SIGNAL WAVEFORMS TAKEN WITH KEYED RAINBOW GENERATOR SIGNAL.

** INDICATES WAVEFORMS TAKEN AT 1/2 HORIZONTAL SWEEP RATE.
* INDICATES WAVEFORMS TAKEN AT 1/2 VERTICAL SWEEP RATE.
RL = RECEPTACLE
PG = PLUG
N.S. = NO SIGNAL

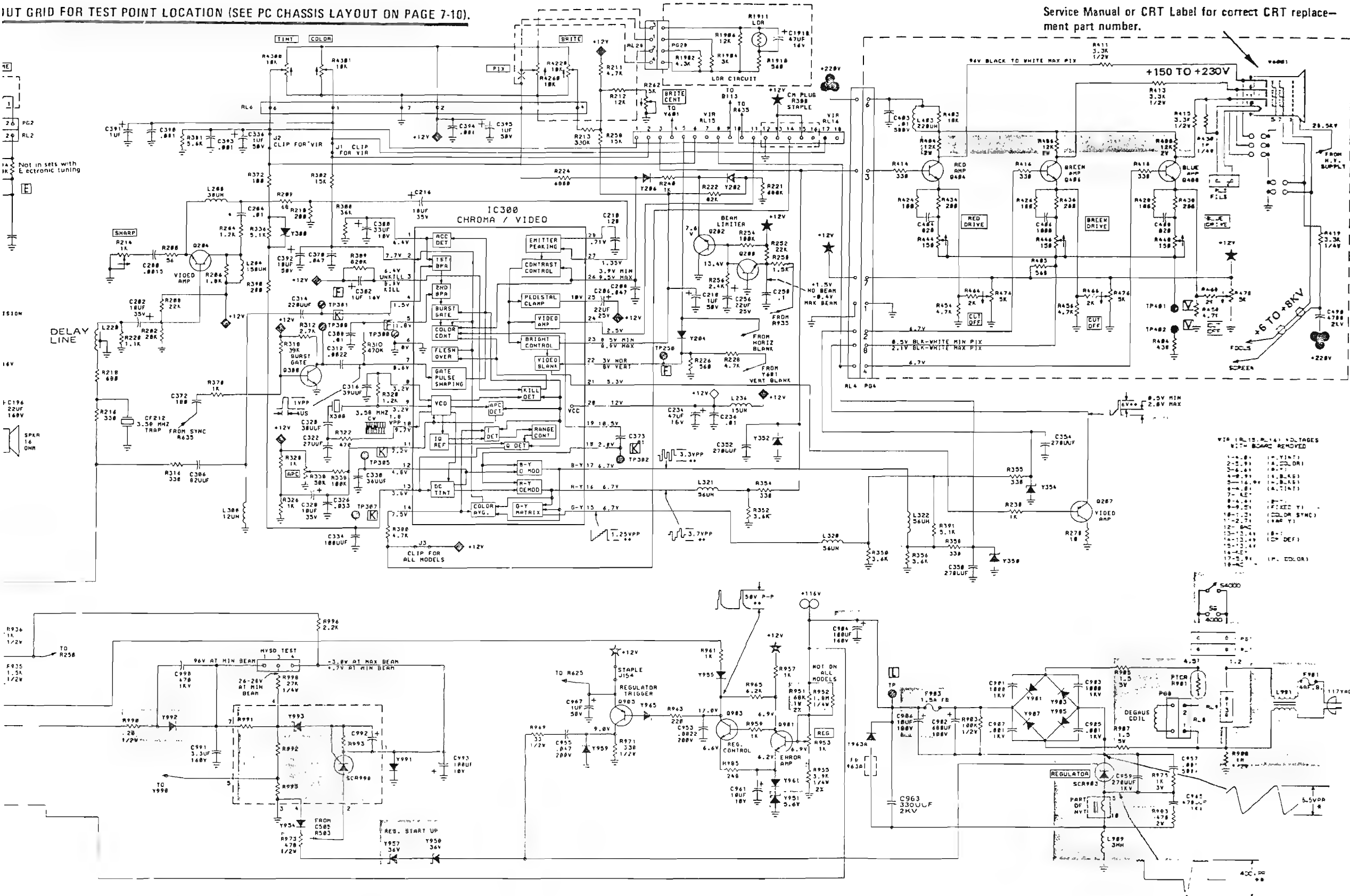


HORIZ. OUTPUT XSISTOR AND DAMPER DIODE ARE INCLUDED IN THE SAME UNIT. REPLACE ONLY WITH ORIGINAL EQUIPMENT GE CATALOG REPLACEMENT PART NUMBER EP15X218.



UT GRID FOR TEST POINT LOCATION (SEE PC CHASSIS LAYOUT ON PAGE 7-10).

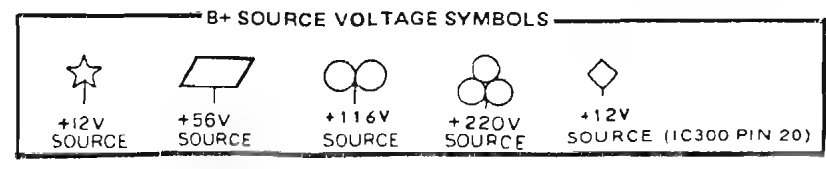
Service Manual or CRT Label for correct CRT replacement part number.



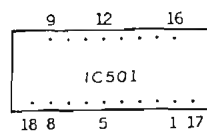
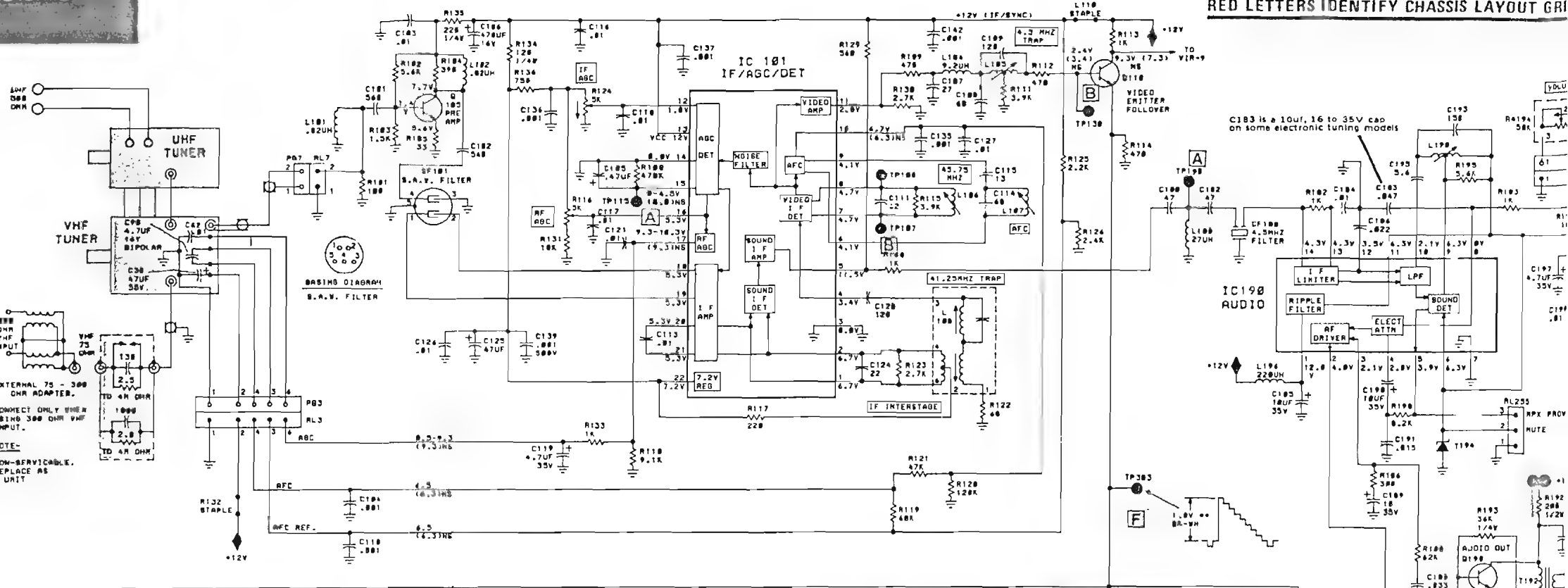
VIR (R15, R16) VOLTAGES WITH BOARD REMOVED

1-4.0V	(A, Y) INT
2-5.0V	(A, CL) DRI
3-6.0V	(B, Y) INT
4-7.0V	(A, BL) S
5-14.0V	(A, BL) S
6-8.0V	(A, Y) INT
7-4.0V	(B, Y) INT
8-4.0V	(B, Y) INT
9-9.0V	(A, CL) DRI
10-1.5V	(A, CL) DRI
11-2.7V	(A, CL) DRI
12-0.0V	(A, CL) DRI
13-1.5V	(A, CL) DRI
14-1.5V	(A, CL) DRI
15-1.5V	(A, CL) DRI
16-1.5V	(A, CL) DRI
17-1.5V	(A, CL) DRI
18-1.5V	(A, CL) DRI

MAIN CHASSIS SCHEMATIC DIAGRAM



SEE SECTION ON ELECTRONIC TUNING SYSTEMS FOR SERVICE INFORMATION ON ALL ELECTRO-NIC TUNING MODELS.



BASING DIAGRAM (IC501)
BOTTOM VIEW

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

73E261717-REV3 SCHEMATIC PC-25 SERVICE #B02

UNLESS OTHERWISE NOTED:

K = 1,000
M = 1,000,000
CAPACITORS MORE THAN 1 = 10UF = 10PF
CAPACITORS LESS THAN 1 = UF
INDUCTORS MORE THAN 1 = MH
RESISTORS ARE 1/8 WATT

VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS. RECEIVER SET FOR NORMAL OPERATION WITH STRONG SIGNAL. MEASUREMENTS MAY VARY +/-10% AT 120V AC LINE VOLTAGE. SIGNAL WAVEFORMS TAKEN WITH KEYED RAINBOW GENERATOR SIGNAL.

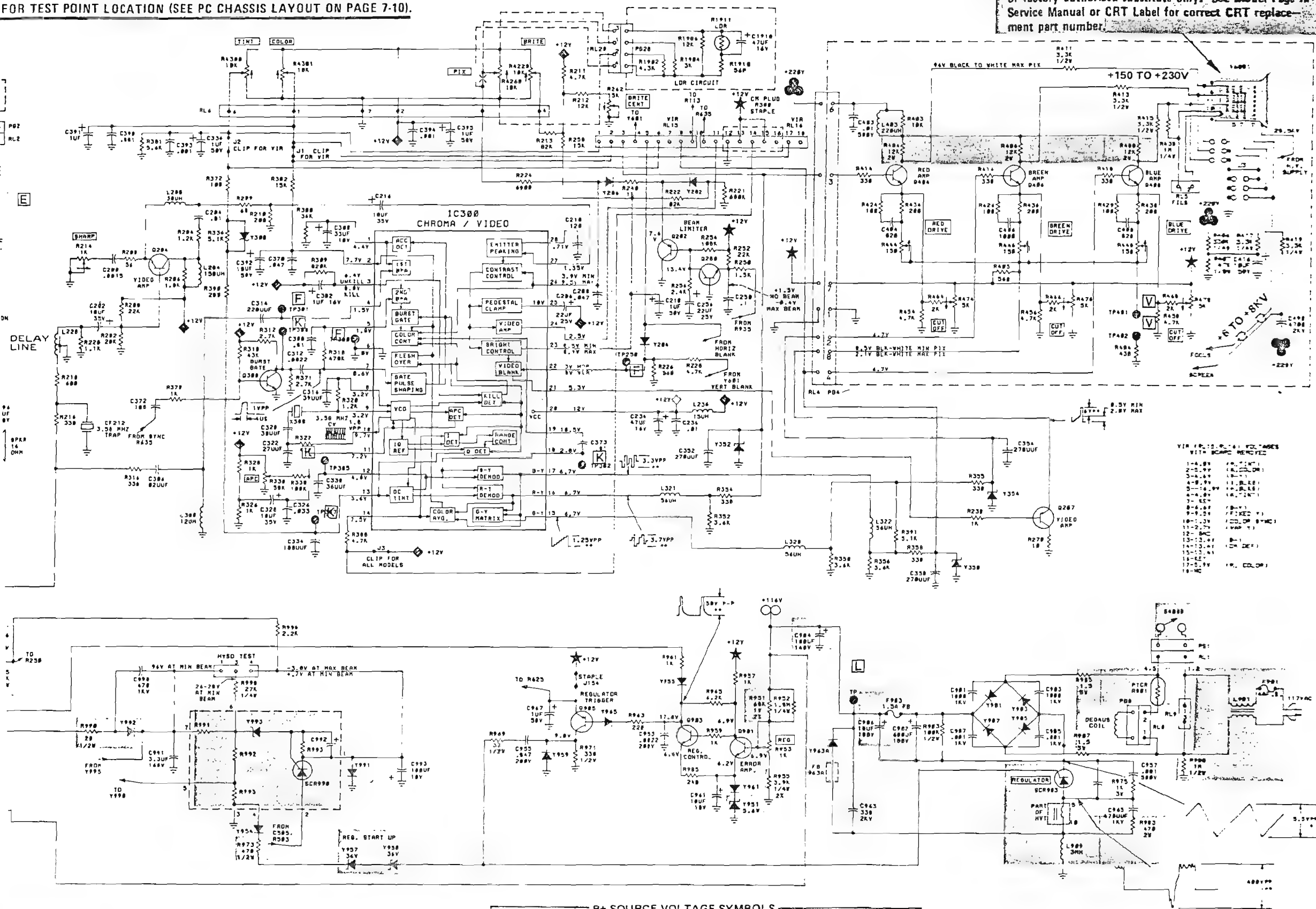
** INDICATES WAVEFORMS TAKEN AT 1/2 HORIZONTAL SWEEP RATE.
* INDICATES WAVEFORMS TAKEN AT 1/2 VERTICAL SWEEP RATE.
AL = RECEIPTABLE
PB = PLUS
N.C. = NO SIGNAL

HORIZ. OUTPUT RESISTOR AND DAMPER DIODE ARE INCLUDED IN THE SAME UNIT. REPLACE ONLY WITH ORIGINAL EQUIPMENT GE CATALOG REPLACEMENT PART NUMBER EP15X218.

FOR TEST POINT LOCATION (SEE PC CHASSIS LAYOUT ON PAGE 7-10).

NOTE -

Replace CRT (V6001) with the same type in the receiver or factory authorized substitute only. See Model Page in Service Manual or CRT Label for correct CRT replacement part number.



25PC-B/C/D MAIN CHASSIS REPLACEMENT PARTS LIST

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

CIRCUIT BOARD ASSEMBLIES

PART NO. DESCRIPTION

	Main Circuit Board
EP93X392	RGB Circuit Board
EP93X454	Horiz. Heat Sink Circuit Board
EP93X462	VIR Circuit Board

CHASSIS

PARTS NOT ON CIRCUIT BOARDS

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C30	EP31X45	47uf, 25V, Elect.
C60	ES25X22	.01uf, 20%, 50V, Polyester
C90	EP31X149	10uf, 35V, Elect.
C95	EP31X149	10uf, 35V, Elect.
C232	EP31X147	47uf, +100-10%, 250V, Elect.
C4000	EP18X81	1000pf, +80-20%, 1KV, HiK, Cer Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R10	EP14X154	22 ohm, 5%, 1W, Carbon
R12	EP14X54	18 ohm, 5%, 1W, Carbon
R29	EP14X326	VARISTOR-"MOV", Metal Oxide
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	Horiz. Centering

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
	EP36X451	COIL-Degaussing (2 Used)
	EP42X8	CONVERGENCE ASM.
	EP76X33	YOKE
L50	ES36X82	CHOKES-220uh, 10%

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-75 to 300 ohm (Antenna)
	EP2X553	BRACKET-CRT Corner Mounting, Metal
	EP2X544	BRACKET-Ckt. Bd. Support, Plastic
	EP2X543	BRACKET-H.V.T. Brace, Plastic
	EP2X539	BRACKET-H.V.T. Support, Plastic
	EP2X542	BRACKET-VIR Board Mounting, Plastic

EP8X51	CABLE-Coaxial, 7" W/Phono Plugs
EP8X60	CABLE-Antenna Bracket To Tuner
EP8X124	CABLE-ET91 to UHF & KMP To UHF Plastic
EP8X97	CABLE-Coaxial, VHF to UHF (Mech. Only)
EP2X90	CLAMP-Yoke & Conv. Retainer
EP8X93	CONNECTOR-5 Pos.
EP8X90	CONNECTOR-3 Pos.
EP8X71	CONNECTOR-6 Pos.
EP8X66	CONNECTOR-7 Pos.
EP8X68	CONNECTOR-2 Pos.
EP8X90	CONNECTOR-3 Pos.
EP8X94	CONNECTOR-3 Pos.

PG12	EP8X30	CONNECTOR-1 Pin
RL16A	EP8X66	CONNECTOR-7 Pos. (El. Tuning)
RL16A	EP8X92	CONNECTOR-8 Pos. (Direct)
RL17	EP8X90	CONNECTOR-5 Pos.
RL18	EP8X71	CONNECTOR-6 Pos.
RL28	EP8X42	CONNECTOR-4 Pins
RL59	EP8X43	CONNECTOR-2 Pins
PG250	EP8X43	CONNECTOR-2 Pins
	EP66X19	CORD-AC Power, Polarized, Wired In-Type
	EP3X53	CUSHION-Yoke Wedge
	EP92X101	FRAME-Front & Sides, For Main Board Support, Plastic
	EP92X102	FRAME-Rear Support, For Main Board, Plastic
SG4000	EP41X154	SPARK GAP-(On Units W/Mechanical (PC-C/D) Tuners)
	EU34X192	SOCKET-Pilot Light
	EP90X3	Wire Tie

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C103	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C104	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C105	ES25X21	.15uf, 20%, 50V, Polyester (PC-C/D)
C105	EP31X138	.47uf, 20%, 50V, Elect. (PC-B Only)
C106	EP31X159	.47uf, 20%, 16V, Elect.
C107	EP18X187	27pf, 5%, 50V, Cer. Disc
C108	EP18X191	68pf, 5%, 50V, Cer. Disc
C109	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C110	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
C113	EP18X197	.01uf, 10%, 50V, SHiK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, Cer. Disc
C115	EP18X101	13pf, 5%, 50V, NPO, Cer. Disc
C116	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C117	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C118	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C119	EP31X170	4.7uf, 20%, 35V, Elect.
C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
C121	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C124	EP18X186	22pf, 10%, 50V, NPO, Cer. Disc
C125	EP31X45	47uf, 20%, 10V, Elect.
C126	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C127	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C135	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C136	EP18X220	1000pf, 10%, 500V, Cer. Disc

C137	EP18X220	1000pf, 10%, 500V, Cer. Disc
C139	EP18X259	1000pf, 10%, 500V, HiK, Cer. Disc
C142	EP18X259	1000pf, 20%, 500V, HiK, Cer. Disc
C180	EP18X189	47pf, 5%, 50V, Cer. Disc
C182	EP18X189	47pf, 5%, 50V, Cer. Disc
C183	EP31X149	10uf, 20%, 35V, Elect.
C184	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C185	EP31X149	10uf, 20%, 35V, Elect.
C186	EP25X130	.022uf, 10%, 50V, Polyester
C187	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C188	EP25X146	.033uf, 10%, 200V, Mylar
C189	EP31X149	10uf, 20%, 35V, Elect.
C190	EP31X149	10uf, 20%, 35V, Elect.
C191	EP18X170	.015uf, 10%, 25V, Cer. Disc
C192	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C193	EP18X113	150pf, 5%, 50V, NPO, Cer. Disc
C194	EP31X152	2.2uf, +50-20%, 250V, Elect.
C195	EP18X182	5.6pf, 10%, 50V, Cer. Disc
C196	EP31X153	22uf, +50-10%, 160V, Elect.
C197	EP31X170	4.7uf, 20%, 35V, Elect.
C198	EP31X149	10uf, 20%, 35V, Elect.
C199	EP18X169	.01uf, 30%, 25V, Cer. Disc
C200	EP18X274	1500pf, 10%, 50V, SHiK, Cer. Disc
C202	EP31X149	10uf, 10%, 35V, Elect.
C204	EP18X169	.01uf, 30%, 25V, Cer. Disc
C206	EP31X172	22uf, 20%, 25V, Elect.
C208	EP18X170	4.7uf, 20%, 35V, Elect. (PC-D Only)
C208	EP18X167	.047uf, 20%, 50V, HiK, Cer. Disc (PC-B/C)
C210	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C216	EP31X149	10uf, 10%, 35V, Elect.
C218	EP31X166	1uf, 20%, 50V, Elect.
C234	EP31X88	47uf, 10%, 16V, Elect.
C236	EP18X169	.01uf, 30%, 25V, Elect.
C240	ES18X56	18pf, 10%, 500V, Cer. Disc
C250	EP25X77	.1uf, 20%, 50V, Polyester
C256	EP31X172	22uf, 20%, 25V, Elect.
C300	EP31X175	33uf, +50-20%, 10V, Elect.
C302	EP31X178	1uf, 10%, 16V, Tantalum
C306	EP18X122	82pf, 5%, 50V, Cer. Disc
C308	EU22X216	.01uf, 20%, 50V, HiK, Cer. Disc
C312	EP18X198	2200pf, 30%, 25V, HiK, Cer. Disc
C314	EP18X202	220pf, 10%, 50V, NPO, Cer. Disc
C316	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C320	EP18X219	30pf, 5%, 50V, Cer. Disc
C322	EP18X187	27pf, 5%, 50V, Cer. Disc
C326	EP25X124	.033uf, 20%, 50V, Polyester
C328	EP31X149	10uf, 20%, 35V, Elect.
C330	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
C334	EP18X194	100pf, 5%, 50V, Cer. Disc
C336	EP31X116	1uf, 20%, 50V, Elect.
C350	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C352	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C354	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C370	EP25X87	.047uf, 20%, 50V, Polyester
C372	EP18X223	180pf, 10%, 50V, HiK, Cer. Disc
C373	EP18X169	.01uf, 30%, 25V, NPO, Cer. Disc
C390	EP18X220	1000pf, +80-20%, 500V, HiK Cer Disc
C391	EP31X166	1uf, 20%, 50V, Elect.
C392	EP31X149	10uf, 20%, 35V, Elect.
C393	EP18X220	1000pf, 20%, 500V, HiK, Cer. Disc
C394	EP18X220	1000pf, +80-20%, 500V, HiK Cer Disc
C395	EP31X166	1uf, 20%, 50V, Elect.
C501	EP31X170	4.7uf, 20%, 35V, Elect. (PC-C/D)
C501	EP31X45	47uf, 20%, 16V, Elect. (PC-B Only)
C503	EP25X149	5600pf, 5%, 100V, Polypropylene
C505	EP31X178	1uf, 10%, 16V, Tantalum
C506	EP25X150	6800pf, 10%, 50V, Polyester
C507	EP25X87	.047uf, 10%, 50V, Polyester
C509	EP25X127	.015uf, 10%, 50V, Polyester
C512	EP25X95	.22uf, 10%, 50V, Polyester

REF. NO.	PART NO.
R101	EP14X187
R102	EP14X180
R103	ES14X62
R104	ES14X57
R105	ES14X56
R108	Common
R108	EP14X133
R109	ES14X58

C513	EP31X149
C514	EP18X197
C514	EP18X217
C515	EP25X94
C517	EP25X87
C521	EP25X80
C521	EP25X160
C523	EP25X77
C601	EP25X171
C603	EP31X149
C605	EP18X229
C607	EP31X141
C609	EP31X166
C611	EP25X130
C613	EP18X286
C614	EP31X172
C614	EP31X11
C615	EP31X151
C617	EP18X220
C617	EP18X264
C619	EP31X154
C621	EP31X169
C623	EP31X178
C701	EP25X110
C703	EP18X217
C705	EP25X148
C706	EP25X146
C901	EP18X285
* C902	EP31X165
* C902	EP31X158
C903	EP18X285
* C904	EP31X109
C905	EP18X285
* C906	EP31X156
C907	EP18X285
C921	EU22X76
C923	EP18X279
C924	EP18X264
C925	EP31X159
C927	EP18X268
C929	EP18X81
C931	EP31X157
C933	EP25X89
C935	EP18X279
C937	EP18X81
C938	EP18X217
C939	EP31X155
C941	EP18X132
C943	EP31X45
C945	EU22X212
C947	EP18X118
C953	EP25X161
C955	EP20X20
C957	EP18X81
C959	EP18X266
C961	EP31X149
C963	ES18X13
C965	EP18X11
C967	EP31X166
C990	EP18X279
C991	EP31X160
C993	EP31X169

PC CHASSIS

10uf, 20%, 35V, Elect.
1000pf, 10%, 50V, SHiK, Cer. Disc (PC-C/D)
330pf, 10%, 50V, SHiK, Cer. Disc (PC-B Only)
5600pf, 10%, 50V, Polyester
.047uf, 10%, 50V, Polyester (PC-B Only)
.015uf, 10%, 50V, Polyester (PC-D Only)
8200pf, 10%, 50V, Polyester (PC-B/C)
.1uf, 20%, 50V, Polyester
.033uf, 10%, 50V, Polyester
10uf, 20%, 35V, Elect.
6800pf, 10%, 50V, SHiK, Cer. Disc
220uf, 20%, 16V, Elect.
1uf, 20%, 50V, Elect.
.022uf, 10%, 50V, Polyester
180pf, 5%, 500V, Cer. Disc
22uf, 20%, 25V, Elect. (PC-C/D)
4.7uf, 20%, 50V, Elect. (PC-B/C)
2.7uf, 20%, 160V, Elect.
1000pf, 20%, 500V, HiK, Cer. Disc (PC-D Only)
4700pf, 20%, 500V, HiK, Cer. Disc (PC-B/C)
470uf, 20%, 10V, Elect.
100uf, 20%, 50V, Elect.
1uf, 10%, 35V, Tantalum
3300pf, 10%, 200V, Mylar
330pf, 10%, 500V, SHiK, Cer. Disc
.027uf, 10%, 100V, Polyester
.033uf, 20%, 200V, Mylar
1000pf, +100-0%, 1KV, Cer. Disc
680uf, 20%, 180V, Elect. (PC-D Only)
330uf, +50-20%, 180V, Elect. (PC-B/C)
1000pf, +100-0%, 1KV, Cer. Disc
100uf, 10%, 160V, Elect.
1000pf, +100-0%, 1KV, Cer. Disc
10uf, +50-20%, 180V, Elect.
1000pf, +100-0%, 1KV, Cer. Disc
1000pf, 20%, 500V, HiK, Cer. Disc
470pf, 20%, 1KV, HiK, Cer. Disc
4700pf, 20%, 500V, HiK, Cer. Disc
470uf, 20%, 25V, Elect
150pf, 20%, 1KV, HiK, Cer. Disc
1000pf, 20%, 500V, Cer. Disc
220uf, 20%, 100V, Elect
.047uf, 20%, 300V, Mylar
470pf, 20%, 1KV, HiK, Cer. Disc
1000pf, 20%, 500V, Cer. Disc
330pf, 10%, 500V, Cer. Disc
4.7uf, +50-20%, 160V, Elect
8200pf, 10%, 500V, Cer. Disc
47uf, 20%, 16V, Elect.
6800pf, 20%, 500V, Cer. Disc
.1uf, 10%, 25V, Cer. Disc
1800pf, 10%, 200V, Mylar
.047uf, 10%, 200V, Mylar
1000pf, 20%, 500V, Cer. Disc
270pf, 20%, 1KV, SHiK, Cer. Disc
10uf, 20%, 35V, Elect.
330pf, 20%, 2KV, Cer. Disc
470pf, 10%, 1KV, Cer. Disc
1uf, 20%, 50V, Elect.
470pf, 20%, 1KV, HiK, Cer. Disc
3.3uf, +50-10%, 160V, Elect.
100uf, 20%, 10V, Elect.

ESISTORS

DESCRIPTION
100 ohm, 5%, 1/8W, Carbon
5.6K ohm, 5%, 1/8W, Carbon
1.5K ohm, 5%, 1/8W, Carbon
390 ohm, 5%, 1/8W, Carbon
33 ohm, 5%, 1/8W, Carbon
270K ohm, 5%, 1/8W, Carbon (PC-C/D)
470K ohm, 5%, 1/8W, Carbon (PC-B Only)
470 ohm, 5%, 1/8W, Carbon

R111 EP14X252
R112 EP14X303
R113 Common
R113 EP14X284
R114 Common
R114 EP14X303
R115 EP14X252
R117 Common
R118 Common
R119 EP14X119
R121 EP14X125
R122 EP14X182
R123 EP14X304
R125 EP14X243
R126 EP14X184
R128 EP14X185
R129 ES14X59
R130 EP14X304
R131 EP14X288
R133 ES14X71
R134 Common
R135 Common
R136 EP14X239
R180 ES14X71
R181 EP14X243
R182 EP14X284
R183 EP14X284
R186 Common
R188 EP14X271
R190 Common
R191 ES14X71
* R192 EP14X329

R193 Common
R194 EP14X103
R195 EP14X180
R198 EP14X271
R200 ES14X69
R202 EP14X285
R204 Common
R206 EP14X190
R208 EP14X303
R209 EP14X182
R210 EP14X329
R211 Common
R211 EP14X249
R212 EP14X284
R213 EP14X140
R213 EP14X271
R216 Common
R218 EP14X283
R220 EP14X189
R221 EP14X293
R222 Common
R222 EP14X271
R224 EP14X309
R226 ES14X59
R228 ES14X65
R230 ES14X71
R234 EP14X288
R240 ES14X71
R250 ES14X62
R252 EP14X303
R254 EP14X105
R256 EP14X184
R258 EP14X285
R270 EP14X284
R300 Common
R302 EP14X285
R310 EP14X133
R312 EP14X304
R316 EP14X128
R318 EP14X309
R318 Common

3.9K ohm, 5%, 1/8W, Carbon
470 ohm, 5%, 1/8W, Carbon
510 ohm, 5%, 1/8W, Carbon (PC-D Only)
1K ohm, 5%, 1/8W, Carbon (PC-B/C)
390 ohm, 5%, 1/8W, Carbon (PC-D Only)
470 ohm, 5%, 1/8W, Carbon (PC-B/C)
3.9K ohm, 5%, 1/8W, Carbon
220 ohm, 5%, 1/8W, Carbon
9.1K ohm, 5%, 1/8W, Carbon
68K ohm, 5%, 1/8W, Carbon
47K ohm, 5%, 1/8W, Carbon
68 ohm, 5%, 1/8W, Carbon
2.7K ohm, 5%, 1/8W, Carbon
2.2K ohm, 5%, 1/8W, Carbon
2.4K ohm, 5%, 1/8W, Carbon
120K ohm, 5%, 1/8W, Carbon
560 ohm, 5%, 1/8W, Carbon
2.7K ohm, 5%, 1/8W, Carbon
18K ohm, 5%, 1/8W, Carbon
1K ohm, 5%, 1/8W, Carbon
120 ohm, 5%, 1/4W, Carbon
220 ohm, 5%, 1/4W, Carbon
750 ohm, 5%, 1/8W, Carbon
1K ohm, 5%, 1/8W, Carbon
2.2K ohm, 5%, 1/8W, Carbon
1K ohm, 5%, 1/8W, Carbon
1K ohm, 5%, 1/8W, Carbon
300 ohm, 5%, 1/8W, Carbon
82K ohm, 5%, 1/8W, Carbon
62K ohm, 5%, 1/8W, Carbon
1K ohm, 5%, 1/8W, Carbon
200 ohm, 5%, 1/2W, Carbon Fl.
Proof
36K ohm, 5%, 1/4W, Carbon
10K ohm, 5%, 1/8W, Carbon
5.6K ohm, 5%, 1/8W, Carbon
8.2K ohm, 5%, 1/8W, Carbon
56 ohm, 5%, 1/8W, Carbon
20K ohm, 5%, 1/8W, Carbon
1.2K ohm, 5%, 1/8W, Carbon
1.8K ohm, 5%, 1/8W, Carbon
22K ohm, 5%, 1/8W, Carbon
68 ohm, 5%, 1/8W, Carbon
200 ohm, 5%, 1/8W, Carbon
4.3K ohm, 5%, 1/8W, Carbon (PC-D Only)
4.7K ohm, 5%, 1/8W, Carbon (PC-B/C)
12K ohm, 5%, 1/8W, Carbon
330K ohm, 5%, 1/8W, Carbon
82K ohm, 5%, 1/8W, Carbon (PC-B/C)
330 ohm, 5%, 1/8W, Carbon
680 ohm, 5%, 1/8W, Carbon
1.1K ohm, 5%, 1/8W, Carbon
680K ohm, 5%, 1/8W, Carbon
150K ohm, 5%, 1/8W, Carbon (PC-D Only)
82K ohm, 5%, 1/8W, Carbon (PC-B/C)
6.8K ohm, 5%, 1/8W, Carbon
560 ohm, 5%, 1/8W, Carbon
4.7K ohm, 5%, 1/8W, Carbon
1K ohm, 5%, 1/8W, Carbon
18K ohm, 5%, 1/8W, Carbon
1K ohm, 5%, 1/8W, Carbon
1.5K ohm, 5%, 1/8W, Carbon
22K ohm, 5%, 1/8W, Carbon
100K ohm, 5%, 1/8W, Carbon
2.4K ohm, 5%, 1/8W, Carbon
15K ohm, 5%, 1/8W, Carbon
10 ohm, 5%, 1/8W, Carbon
36K ohm, 5%, 1/8W, Carbon
15K ohm, 5%, 1/8W, Carbon
470K ohm, 5%, 1/8W, Carbon
2.7K ohm, 5%, 1/8W, Carbon
330 ohm, 5%, 1/8W, Carbon
39K ohm, 5%, 1/8W, Carbon (PC-C/D)
43K ohm, 5%, 1/8W, Carbon (PC-B Only)

R320 Common
R322 ES14X58
R326 ES14X71
R328 ES14X71
R336 Common
R338 EP14X105
R350 Common
R352 Common
R354 EP14X128
R355 EP14X128
R356 Common
R358 EP14X128
R370 EP14X284
R371 EP14X304
R372 Common
R372 EP14X187
R380 ES14X65
R381 EP14X180
R389 Common
R390 Common
R391 Common
R503 EP14X323
R506 Common
R507 Common
R508 EP14X188
R509 EP14X119
R511 EP14X103
R513 EP14X103
R515 EP14X12
R516 Common
R517 Common
R518 Common
R519 Common
R521 EP14X187
R523 ES14X57
R525 EP14X304
R527 EP14X180
R529 Common
R531 ES14X56
R535 Common
R537 EP14X125
R601 EP14X285
R603 ES14X51
R605 EP14X103
R609 EP14X284
R611 EP14X128
R613 EP14X243
R615 EP14X285
R617 Common
R621 EP14X272
R623 EP14X271
R625 Common
R627 EP14X243
R631 EP14X309
R633 EP14X271
R635 Common
R637 EP14X187
R639 ES14X71
R641 EP14X188
R643 EP14X102
R645 EP14X102
R647 EP14X230
R649 EP14X183
R651 Common
R653 EP14X220
R655 Common
R702 EP14X328
R703 EP14X262
R707 EP14X62
R900 EP14X106
R901 EP14X330
R903 EP14X105
R905 EP14X317
R907 EP14X317

1.2K ohm, 5%, 1/8W, Carbon
470 ohm, 5%, 1/8W, Carbon
1K ohm, 5%, 1/8W, Carbon
1K ohm, 5%, 1/8W, Carbon
5.1K ohm, 5%, 1/8W, Carbon
100K ohm, 5%, 1/8W, Carbon
3.6K ohm, 5%, 1/8W, Carbon
3.6K ohm, 5%, 1/8W, Carbon
330 ohm, 5%, 1/8W, Carbon
330 ohm, 5%, 1/8W, Carbon
3.6K ohm, 5%, 1/8W, Carbon
330 ohm, 5%, 1/8W, Carbon
1K ohm, 5%, 1/8W, Carbon
2.7K ohm, 5%, 1/8W, Carbon (PC-B Only)
300 ohm, 5%, 1/8W, Carbon (PC-D Only)
100 ohm, 5%, 1/8W, Carbon (PC-B/C)
4.7K ohm, 5%, 1/8W, Carbon
5.6K ohm, 5%, 1/8W, Carbon
820K ohm, 10%, 1/8W, Carbon
200 ohm, 5%, 1/8W, Carbon (PC-B/C)
5.1K ohm, 5%, 1/8W, Carbon
6.8K ohm, 5%, 3W, Flame Proof
5.1K ohm, 5%, 1/8W, Carbon
11K ohm, 5%, 1/8W, Carbon
15 ohm, 5%, 1/8W, Carbon
68K ohm, 5%, 1/8W, Carbon
10K ohm, 5%, 1/8W, Carbon
10K ohm, 5%, 1/4W, Carbon
1 meg ohm, 5%, 1/8W, Carbon
150K ohm, 5%, 1/8W, Carbon
110K ohm, 5%, 1/8W, Carbon (PC-B Only)
240K ohm, 5%, 1/8W, Carbon
62K ohm, 5%, 1/8W, Carbon
100 ohm, 5%, 1/8W, Carbon
390 ohm, 5%, 1/8W, Carbon
2.7K ohm, 5%, 1/8W, Carbon (PC-B Only)
5.6K ohm, 5%, 1/8W, Carbon (PC-B Only)
270 ohm, 5%, 1/8W, Carbon (PC-B Only)
33 ohm, 5%, 1/8W, Carbon
51K ohm, 5%, 1/8W, Carbon
47K ohm, 5%, 1/8W, Carbon
15K ohm, 5%, 1/8W, Carbon
47 ohm, 5%, 1/8W, Carbon
10K ohm, 5%, 1/8W, Carbon
12K ohm, 5%, 1/8W, Carbon
330 ohm, 5%, 1/8W, Carbon
2.2K ohm 5%, 1/8W, Carbon
20K ohm, 5%, 1/8W, Carbon
220 ohm, 5%, 1/8W, Carbon
6.8 ohm, 5%, 1W, Metal Oxide
8.2K ohm, 5%, 1/8W, Carbon
220 ohm, 5%, 1/8W, Carbon
2.2K ohm, 5%, 1/8W, Carbon
6.8K ohm, 5%, 1/8W, Carbon
8.2K ohm, 5%, 1/8W, Carbon
180 ohm, 5%, 1/8W, Carbon
100 ohm, 5%, 1/8W, Carbon
1K ohm, 5%, 1/8W, Carbon
15 ohm, 5%, 1/2W, Carbon
560 ohm, 5%, 1W, Metal Oxide
560 ohm, 5%, 1W, Metal Oxide
1.5K ohm, 5%, 3W, Flame Proof
3.3K ohm, 5%, 1/4W, Carbon
10 ohm, 5%, 1/2W, Carbon
180 ohm, 5%, 2W, Metal Oxide
2.7K ohm, 5%, 1/2W, Carbon
1.2K ohm, 5%, 3W, Flame Proof
.47 ohm, 5%, 2W, Metal Oxide
1.5K ohm, 5%, 2W, Metal Oxide
1 meg ohm, 5%, 1/2W, Carbon
Degaussing
100K ohm, 5%, 1/2W, Carbon
1.5 ohm, 10%, 5W, Wirewound
1.5 ohm, 10%, 5W, Wirewound

* R921 ES14X80
R923 ES14X79
* R925 ES14X80
* R927 ES14X80
R929 EP14X266
R932 Common
R932A Common
R933 Common
R933 ES14X62
* R935 ES14X62
* R935 EP14X131
* R936 EU13X4
* R937 EP14X287
R939 EP14X187
* R941 EP14X54
R951 EP14X320
R952 Common
R954 EP14X105
R955 EP14X252
R957 EP14X284
R959 EP14X284
R961 ES14X71
R963 Common
R965 Common
R969 ES14X56
R971 EP14X128
R973 ES14X58
* R975 EP14X275
R981 EP14X258
* R983 EP14X368
* R983 EP14X321
R985 Common
R990 EP14X269
R996 EP14X250
R998 Common

2.2 ohm, 5%, 1/2W, Flame Proof
1 ohm, 5%, 1/2W, Flame Proof
2.2 ohm, 5%, 1/2W, Flame Proof
2.2 ohm, 5%, 1/2W, Flame Proof
.39 ohm, 5%, 1W, Metal Oxide
120 ohm, 5%, 1/4W, Carbon
120 ohm, 5%, 1/4W, Carbon
220K ohm, 5%, 1/2W, Carbon (PC-C/D)
1.5K ohm, 5%, 1/2W, Carbon (PC-B Only)
1.5K ohm, 5%, 1/2W, Carbon (PC-C/D)
1.8K ohm, 5%, 1/2W, Carbon (PC-B Only)
1K ohm, 5%, 1/2W, Carbon
4.7 ohm, 5%, 1W, Metal Oxide
100 ohm, 5%, 1/2W, Carbon
18 ohm, 5%, 2W, Metal Oxide
68K ohm, 2%, 1W, Metal Oxide
1.8 meg. ohm, 5%, 1/4W, Carbon
100K ohm, 5%, 1/4W, Carbon
3.9K ohm, 2%, 1/8W, Carbon
1K ohm, 5%, 1/8W, Carbon
1K ohm, 5%, 1/8W, Carbon
1K ohm, 5%, 1/8W, Carbon
220 ohm, 5%, 1/8W, Carbon
6.2K ohm, 5%, 1/8W, Carbon
33 ohm, 5%, 1/2W, Carbon
330 ohm, 5%, 1/2W, Carbon
470 ohm, 5%, 1/2W, Carbon
1K ohm, 10%, 3W, Wirewound
3 ohm, 10%, 7W, Wirewound
1.6K ohm, 5%, 1W, Metal Oxide (PC-D Only)
470 ohm, 5%, 2W, Metal Oxide (PC-B/C)
240 ohm, 5%, 1/8W, Carbon
20 ohm, 5%, 1/2W, Carbon
2.2K ohm, 5%, 1/8W, Carbon
27K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
R116	EP49X463	RF/AGC, 5K ohm, 20%
R124	EP49X463	IF/AGC, 5K ohm, 20%
R214	EP49X464	Sharpness, 1K ohm, 20%
R262	EP49X463	Brightness, 5K ohm, 20%
R330	EP49X465	APC, 50K ohm, 20%
R505	EP49X463	Horiz. Hold, 5K ohm, 20%
R619	EP49X466	Vert. Height, 250 ohm, 20%
R629	EP49X467	Vert. Hold, 10K ohm, 20%
R657	EP49X465	Vert. Centering, 50K ohm, 20%
R953	EP49X468	Reg., 1K ohm, 20%

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
*	EP62X167	HVSD-Thick Film
IC101	EP84X213	VIF/Det/AGC
IC190	EP84X216	IF/Sound
IC300	EP84X221	Chroma/Video
IC501	EP84X215	Sync. Sep.
IC901	EP84X217	12V, 3 Ter. Regulator

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
SCR903	EP15X217	SCR Regulator, FNP
Q105	EP15X104	Pre Amp, HF, BiPolar
Q110	EP15X87	Video Emitter Follower NPN, Silicon
Q190	EP15X19	Audio Output, NPN, Silicon
Q192	EP15X19	Audio Output, NPN, Silicon
Q200	EP15X88	Regulator, NPN, Silicon
Q202	EP15X48	Beam Limiter, PNP, Silicon
Q204	EP15X88	Video Amp, NPN, Silicon
Q207	EP15X57	Video Amp, PNP, Silicon
Q300	EP15X226	Burst Gate, NPN, Silicon

19PC-J MAIN CHASSIS REPLACEMENT PARTS LIST

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create shock, fire or other hazards, or excessive X-Radiation.

CIRCUIT BOARD ASSEMBLIES

PART NO.	DESCRIPTION	L50	ES36X82	CHOKES-220uh, 10%
EP93X550	Main Circuit Board	L1901	EP36X443	COIL-Width
EP93X536	RGB Circuit Board	PT01	EP88X42	TRANSFORMER-Power
EP93X462	Horiz. Heat Sink Circuit Board	*T701	EP77X64	TRANSFORMER-H.V.
	VIR Circuit Board	*T1901	EP36X444	COIL-Pincushion Asm.
			EP41X132	RELAY
			EP88X46	TRANSFORMER-For Tuner Control Bd.

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PARTS NOT ON CIRCUIT BOARDS

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C30	EP31X45	47uf, 10%, 35V, Elect.
C60	ES25X22	.01uf, 20%, 50V, Polyester
C90	EP31X161	4.7uf, 20%, 16V, Bi Polar, Elect.
C232	EP31X147	47uf, + 100-10%, 250V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R10	EP14X154	22 ohm, 5%, 1W, Carbon
R12	EP14X54	18 ohm, 5%, 1W, Carbon
R29	EP14X326	VARISTOR-"MOV", Metal Oxide
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R234	EP14X296	100 ohm, 5%, 1/2W, Metal Oxide

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	HORIZ. CENTERING-500 ohm, 10%

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q1901	EP15X218	NPN, Silicon

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
	EP36X445	COIL-Degaussing
	EP42X8	CONVERGENCE ASM.
	EP76X37	YOKE

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP60X13	AIR GAP-For H. V. T.
	EP90X40	ADAPTOR-75 to 300 ohm (Antenna)
	EP3X57	ANODE CLIP
	EP8X36	ANODE-CRT Connector
	EP2X544	BRACKET-Ckt. Bd. Support, Plastic
	EP2X546	BRACKET-CRT Ground Terminal
	EP2X543	BRACKET-H.V.T. Brace, Plastic
	EP2X539	BRACKET-H.V.T. Support, Plastic
	EP2X271	BRACKET-Rib Boss For Cabinet Front
	EP2X542	BRACKET-VIR Board Support, Plastic
	EP2X548	BRACKET-Anode Lead Dress
	EP8X51	CABLE-Coaxial, 7" W/Phono Plugs
	EP8X60	CABLE-Antenna Bracket To Tuner
	EP8X124	CABLE-ET91 to UHF & KMP To UHF
	EP2X90	CLAMP-Yoke & Conv. Retainer
	ES3X29	CLIP-Antenna Terminal
	EP3X4	CLIP-Upper CRT Bkt-Tuner
	EP2X545	CLIP-Chassis Mounting (Uses 2)
	EP2X548	CLIP-Anode Retainer, Plastic
	EP3X57	CLIP-Anode Retainer
	EP8X93	CONNECTOR-5 Pos.
	EP8X90	CONNECTOR-3 Pos.
	EP8X30	CONNECTOR-1 Pos.
	EP8X71	CONNECTOR-6 Pos.
	EP8X66	CONNECTOR-7 Pos.
	EP8X68	CONNECTOR-2 Pos.
	EP8X90	CONNECTOR-3 Pos.
	EP8X94	CONNECTOR-3 Pos.
	EP8X30	CONNECTOR-1 Pin
	EP8X66	CONNECTOR-7 Pos.
	EP8X90	CONNECTOR-5 Pos.
	EP8X42	CONNECTOR-4 Pins
	EP8X43	CONNECTOR-2 Pins
	EP8X43	CONNECTOR-2 Pins
	EP8X90	CONNECTOR-5 Pos.
	EP8X135	CONNECTOR-16 Pos.
	EP8X91	CONNECTOR-9 Pos.
	EP8X43	CONNECTOR-2 Pins
	EP8X92	CONNECTOR-8 Pos.
	*EP66X19	CORD-AC Power, Polarized, Wired In-Type
	EP3X53	CUSHION-Yoke Wedge

EP92X101	FRAME-Front & Sides, For Main Board Support, Plastic
EP92X102	FRAME-Rear Support, For Main Board, Plastic
*F901	FUSE-4 amp, 250V, Snap-In, Fast Acting
*F903	FUSE-1.25 amp, 250V, Snap-In, Med Acting
EP93X544	REMOTE POWER RELAY
EP34X65	BOARD-Bare
EP41X145	SOCKET-CRT
SG4000	SPARK GAP-(On Units W/Mechanical Tuners)
EP2X534	SPRING-Ground, CRT (Uses 2)
EP2X535	STRAPS-Degaussing Coil Adjust
SW5008	SWITCH-Cable Select, Slide Type
EP90X3	Wire Tie

MAIN CIRCUIT BOARD PC-J 19"

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C103	EP22X32	.01uf, +80-20%, 50V, HiK, Cer. Disc
C104	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C105	EP25X187	.15uf, 20%, 50V, Polyester
C106	EP31X31	470uf, 20%, 16V, Elect.
C107	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C110	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
C113	EP18X197	.01uf, 10%, 50V, SHiK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, NPO, Cer. Disc
C115	EP18X101	13pf, 5%, 50V, NPO, Cer. Disc
C116	EP22X32	.01uf, +80-20%, 50V, HiK, Cer. Disc
C117	EP22X32	.01uf, +80-20%, 50V, HiK, Cer. Disc
C118	EP22X32	.01uf, +80-20%, 50V, HiK, Cer. Disc
C119	EP31X179	4.7uf, 20%, 35V, Elect.
C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
C121	EP22X32	.01uf, +80-20%, 50V, HiK, Cer. Disc
C124	EP18X185	18pf, 5%, 50V, NPO, Cer. Disc
C125	EP31X45	47uf, 20%, 10V, Eluct.
C126	EP22X32	.01uf, +80-20%, 50V, HiK, Cer. Disc
C127	EP22X32	.01uf, +80-20%, 50V, HiK, Cer. Disc
C135	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C136	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C137	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc

C139	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C142	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C180	EP18X189	47uf, 20%, 10V, Eluct.
C182	EP18X189	47uf, 20%, 10V, Eluct.
C183	EP31X149	1000pf, 10%, 500V, SHiK, Cer. Disc
C184	EP22X32	.01uf, +80-20%, 50V, HiK, Cer. Disc
C185	EP31X149	1000pf, 10%, 500V, SHiK, Cer. Disc
C186	EP25X183	.01uf, +80-20%, 50V, HiK, Cer. Disc
C187	EP31X177	47uf, 20%, 10V, Eluct.
C188	EP25X165	47uf, 20%, 10V, Eluct.
C189	EP31X149	1000pf, 10%, 500V, SHiK, Cer. Disc
C190	EP31X149	1000pf, 10%, 500V, SHiK, Cer. Disc
C191	EP25X13	.01uf, +80-20%, 50V, HiK, Cer. Disc
C192	EP31X45	47uf, 20%, 10V, Eluct.
C193	EP18X113	15pf, 5%, 50V, NPO, Cer. Disc
C194	EP31X188	22pf, 5%, 50V, NPO, Cer. Disc
C195	EP18X182	56pf, 5%, 50V, NPO, Cer. Disc
C197	EP31X179	47uf, 20%, 10V, Eluct.
C198	EP31X149	1000pf, 10%, 500V, SHiK, Cer. Disc
C199	EP18X169	.01uf, +80-20%, 50V, HiK, Cer. Disc
C200	EP18X274	15pf, 5%, 50V, NPO, Cer. Disc
C201	EP18X202	22pf, 5%, 50V, NPO, Cer. Disc
C202	EP31X149	1000pf, 10%, 500V, SHiK, Cer. Disc
C204	EP18X297	15pf, 5%, 50V, NPO, Cer. Disc
C206	EP31X172	22pf, 5%, 50V, NPO, Cer. Disc
C208	EP31X138	.47uf, 20%, 10V, Eluct.
C210	EP18X113	15pf, 5%, 50V, NPO, Cer. Disc
C216	EP31X149	1000pf, 10%, 500V, SHiK, Cer. Disc
C218	EP31X166	1uf, 20%, 16V, Elect.
C234	EP31X45	47uf, 20%, 10V, Eluct.
C236	EP18X194	1000pf, 10%, 500V, SHiK, Cer. Disc
C240	ES18X56	18pf, 5%, 50V, NPO, Cer. Disc
C250	EP25X77	.1uf, 20%, 50V, Polyester
C256	EP31X172	22pf, 5%, 50V, NPO, Cer. Disc
C300	EP31X175	33pf, 5%, 50V, NPO, Cer. Disc
C302	EP31X178	1uf, 20%, 16V, Elect.
C306	EP18X280	82pf, 5%, 50V, NPO, Cer. Disc
C308	EP22X32	.01uf, +80-20%, 50V, HiK, Cer. Disc
C312	EP18X198	22pf, 5%, 50V, NPO, Cer. Disc
C314	EP18X202	22pf, 5%, 50V, NPO, Cer. Disc
C316	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C320	EP18X219	30pf, 5%, 50V, NPO, Cer. Disc
C322	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
C326	EP25X124	.03uf, 20%, 50V, Polyester
C328	EP31X149	1000pf, 10%, 500V, SHiK, Cer. Disc
C330	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
C334	EP18X194	1000pf, 10%, 500V, SHiK, Cer. Disc
C336	EP31X166	1uf, 20%, 16V, Elect.
C350	EP18X203	270pf, 5%, 50V, NPO, Cer. Disc
C352	EP18X203	270pf, 5%, 50V, NPO, Cer. Disc
C354	EP18X203	270pf, 5%, 50V, NPO, Cer. Disc
C370	EP25X87	.047uf, 20%, 50V, Polyester
C372	EP18X298	180pf, 5%, 50V, NPO, Cer. Disc
C373	EP18X169	.01uf, +80-20%, 50V, HiK, Cer. Disc
C390	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C391	EP31X166	1uf, 20%, 16V, Elect.
C392	EP31X149	1000pf, 10%, 500V, SHiK, Cer. Disc
C393	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C394	EP18X285	1000pf, 10%, 500V, SHiK, Cer. Disc

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0pf, 10%, 500V, SHiK, Cer.	C395	EP31X166	1uf, 20%, 50V, Elect.
	C501	EP31X179	4.7uf, 20%, 35V, Elect.
	C503	EP25X149	5600pf, 5%, 100V, Polypropylene
0pf, 10%, 500V, SHiK, Cer.	C505	EP31X178	1uf, 10%, 16V, Tantalum
	C506	EP25X150	6800pf, 10%, 50V, Polyester
, 5%, 50V, NPO, Cer. Disc	C507	EP25X87	.047uf, 10%, 50V, Polyester
, 5%, 50V, NPO, Cer. Disc	C509	EP25X80	.015uf, 10%, 50V, Polyester
, +80-20%, 35V, Elect.	C513	EP31X149	10uf, 20%, 35V, Elect.
f, 20%, 50V, HiK, Cer. Disc	C514	EP22X5	680pf, 10%, 50V, Cer. Disc
, 20%, 35V, Elect.	C515	EP31X166	1uf, 20%, 50V, Elect.
uf, 10%, 50V, Polyester	C517	EP25X183	.022uf, 10%, 50V, Polyester
uf, 20%, 50V, Elect.	C521	EP25X80	.015uf, 10%, 50V, Polyester
0pf, 10%, 50V, Polyester	C523	EP25X77	.1uf, 20%, 50V, Polyester
, 20%, 35V, Elect.	C601	EP25X171	.033uf, 10%, 50V, Polyester
, 20%, 35V, Elect.	C603	EP31X149	10uf, 20%, 35V, Elect.
uf, 10%, 50V, Polyester	C605	EP18X229	6800pf, 10%, 50V, SHiK, Cer. Disc
, 20%, 35V, Elect.	C607	EP31X188	220uf, 20%, 16V, Elect.
pf, 5%, 50V, NPO, Cer. Disc	C609	EP31X166	1uf, 20%, 50V, Elect.
uf, 20%, 25V, Elect.	C611	EP25X183	.022uf, 10%, 50V, Polyester
f, 10%, 50V, NPO, Cer. Disc	C613	EP18X286	180pf, 5%, 500V, N750, Cer. Disc
f, 20%, 35V, Elect.	C614	EP31X172	22uf, 20%, 25V, Elect.
, 20%, 35V, Elect.	C615	EP31X94	2.7uf, 20%, 160V, Elect.
f, 30%, 25V, Cer. Disc	C617	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
0pf, 10%, 50V, SHiK, Cer. Disc	C619	EP31X159	470uf, 20%, 10V, Elect.
pf, 10%, 50V, HiK, Cer. Disc	C621	EP31X169	100uf, 20%, 50V, Elect.
, 10%, 35V, Elect.	C623	EP31X178	1uf, 10%, 35V, Tantalum
pf, 10%, 50V, HiK, Cer. Disc	C701	EP25X110	3300pf, 10%, 200V, Mylar
, 20%, 25V, Elect.	C703	EP18X217	330pf, 10%, 500V, SHiK, Cer. Disc
f, 20%, 50V, Elect.	C705	EP25X148	.027uf, 10%, 100V, Polyester
f, 5%, 50V, NPO, Cer. Disc	C706	EP25X146	.033uf, 20%, 200V, Mylar
10%, 35V, Elect.	C901	EP18X299	1000pf, +100-0%, 1KV, Cer. Disc
20%, 50V, Elect.	★C902	EP31X66	330uf, 20%, 180V, Elect.
10%, 10V, Elect.	C903	EP18X299	1000pf, +100-0%, 1KV, Cer. Disc
f, 5%, 50V, N750, Cer. Disc	★C904	EP31X109	100uf, 10%, 160V, Elect.
10%, 500V, N750, Cer. Disc	C905	EP18X299	1000pf, +100-0%, 1KV, Cer. Disc
20%, 50V, Polyester	★C906	EP31X156	10uf, +50-20%, 180V, Elect.
20%, 25V, Elect.	C907	EP18X299	1000pf, +100-0%, 1KV, Cer. Disc
+50-20%, 10V, Elect.	C921	EP18X81	1000pf, 20%, 500V, HiK, Cer. Disc
0%, 16V, Tantalum	C923	EP18X279	470pf, 20%, 1KV, Cer. Disc
5%, 50V, N220, Cer. Disc	C924	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
+80-20%, 50V, HiK, Cer.	C925	EP31X159	470uf, 20%, 25V, Elect
	C927	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
uf, 30%, 25V, SS-HiK, Cer.	C929	EP18X81	1000pf, 20%, 500V, Cer. Disc
	C931	EP31X157	220uf, 20%, 100V, Elect
10%, 50V, HiK, Cer. Disc	C933	EP25X89	.047uf, 20%, 300V, Mylar
5%, 50V, NPO, Cer. Disc	C935	EP18X279	470pf, 20%, 1KV, Cer. Disc
5%, 50V, NPO, Cer. Disc	C937	EP18X81	1000pf, 20%, 500V, Cer. Disc
5%, 50V, NPO, Cer. Disc	C938	EP18X217	330pf, 10%, 500V, SHiK, Cer. Disc
, 20%, 50V, Polyester	C939	EP31X155	4.7uf, +50-20%, 160V, Elect
, 20%, 35V, Elect.	C941	EP18X132	8200pf, 10%, 500V, SHiK, Cer. Disc
5%, 50V, NPO, Cer. Disc			
5%, 50V, N750, Cer. Disc	C943	EP31X45	47uf, 20%, 10V, Elect.
0%, 50V, Elect.	C944	EP25X95	.22uf, 10%, 50V, Polyester
10%, 50V, HiK, Cer. Disc	C945	EP31X166	1uf, 20%, 50V, Elect.
10%, 50V, HiK, Cer. Disc	C947	EP18X118	.1uf, 10%, 25V, Cer. Disc
10%, 50V, HiK, Cer. Disc	C953	EP25X161	1800pf, 10%, 200V, Mylar
20%, 50V, Polyester	C955	EP20X20	.047uf, 10%, 200V, Mylar
10%, 50V, HiK, Cer. Disc	C957	EP18X81	1000pf, 20%, 500V, Cer. Disc
30%, 25V, SS-HiK, Cer. Disc	C959	EP18X266	270pf, 20%, 1KV, SHiK, Cer. Disc
, +80-20%, 500V, HiK Cer	C961	ES31X62	100uf, 20%, 10V, Elect.
	C963	ES18X13	330pf, 20%, 2KV, Cer. Disc
%, 50V, Elect.	C965	EP18X11	470pf, 10%, 1KV, Cer. Disc
2%, 35V, Elect.	C967	EP31X166	1uf, 20%, 50V, Elect.
10%, 500V, SHiK, Cer.	C990	EP18X279	470pf, 20%, 1KV, Cer. Disc
	C991	EP31X160	3.3uf, +50-10%, 160V, Elect.
+100-0%, 500V, H.K Cer.	C993	EP31X169	100uf, 20%, 10V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R101	ES14X70	100 ohm, 5%, 1/4W, Carbon
R102	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
R103	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
R104	ES14X57	390 ohm, 5%, 1/4W, Carbon
R105	ES14X56	33 ohm, 5%, 1/4W, Carbon
R108	EP14X97	270K ohm, 5%, 1/4W, Carbon
R109	EP14X318	220 ohm, 5%, 1/8W, Carbon
R113	EP14X373	510 ohm, 5%, 1/8W, Carbon
R114	ES14X57	390 ohm, 5%, 1/4W, Carbon
R115	EP14X407	3.9K ohm, 5%, 1/8W, Carbon
R117	EP14X318	220 ohm, 5%, 1/4W, Carbon
R118	EP14X370	9.1K ohm, 5%, 1/4W, Carbon
R119	EP14X119	68K ohm, 5%, 1/4W, Carbon
R121	EP14X131	47K ohm, 5%, 1/4W, Carbon
R122	EP14X182	68 ohm, 5%, 1/4W, Carbon
R123	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
R125	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R126	EP14X184	2.4K ohm, 5%, 1/8W, Carbon
R128	EP14X185	120K ohm, 5%, 1/4W, Carbon
R129	ES14X59	560 ohm, 5%, 1/4W, Carbon
R130	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
R131	EP14X414	18K ohm, 5%, 1/4W, Carbon
R133	ES14X71	1K ohm, 5%, 1/4W, Carbon
R134	EP14X378	120 ohm, 5%, 1/4W, Carbon
R135	EP14X318	220 ohm, 5%, 1/4W, Carbon
R136	EP14X385	750 ohm, 5%, 1/8W, Carbon
R140	EP14X249	4.7K ohm, 5%, 1/8W, Carbon
R180	ES14X71	1K ohm, 5%, 1/4W, Carbon
R181	EP14X442	160 ohm, 5%, 5W, Wirewound
R182	EP14X284	1K ohm, 5%, 1/8W, Carbon
R183	EP14X284	1K ohm, 5%, 1/8W, Carbon
R184A	EP14X115	430 ohm, 5%, 2W, Carbon
R184B	EP14X228	390 ohm, 5%, 2W, Metal Oxide
R185	ES14X71	1K ohm, 5%, 1/4W, Carbon
R186	ES14X61	820 ohm, 5%, 1/4W, Carbon
R187	ES14X71	1K ohm, 5%, 1/4W, Carbon
R188	EP14X434	39 ohm, 5%, 1/4W, Carbon
R189	ES14X80	2.2 ohm, 5%, 1/2W, Carbon
R190	ES14X80	2.2 ohm, 5%, 1/2W, Carbon
R191	EP14X447	39K ohm, 5%, 1/4W, Carbon
★R192	EP14X380	27K ohm, 5%, 1/4W, Carbon
R193	EP14X421	4.3K ohm, 5%, 1/4W, Carbon
R194	EP14X103	10K ohm, 5%, 1/4W, Carbon
R195	EP14X400	2.7K ohm, 5%, 1/4W, Carbon
R196	EP14X105	100K ohm, 5%, 1/4W, Carbon
R197	EP14X400	2.7K ohm, 5%, 1/4W, Carbon
R198	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R199	EP14X409	10 ohm, 5%, 1/4W, Carbon
R200	ES14X69	56 ohm, 5%, 1/4W, Carbon
R202	EP14X285	20K ohm, 5%, 1/8W, Carbon
R204	EP14X444	1.2K ohm, 5%, 1/8W, Carbon
R206	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
R208	EP14X303	22K ohm, 5%, 1/8W, Carbon
R209	EP14X428	82 ohm, 5%, 1/4W, Carbon
R210	EP14X220	180 ohm, 5%, 1/4W, Carbon
R211	EP14X421	4.3K ohm, 5%, 1/8W, Carbon
R212	EP14X284	12K ohm, 5%, 1/8W, Carbon
R213	EP14X140	330K ohm, 5%, 1/8W, Carbon
R216	EP14X420	270 ohm, 5%, 1/8W, Carbon
R217	ES14X61	820 ohm, 5%, 1/8W, Carbon
R218	EP14X289	430 ohm, 5%, 1/8W, Carbon
R220	EP14X283	680 ohm, 5%, 1/8W, Carbon
R221	EP14X293	680K ohm, 5%, 1/4W, Carbon

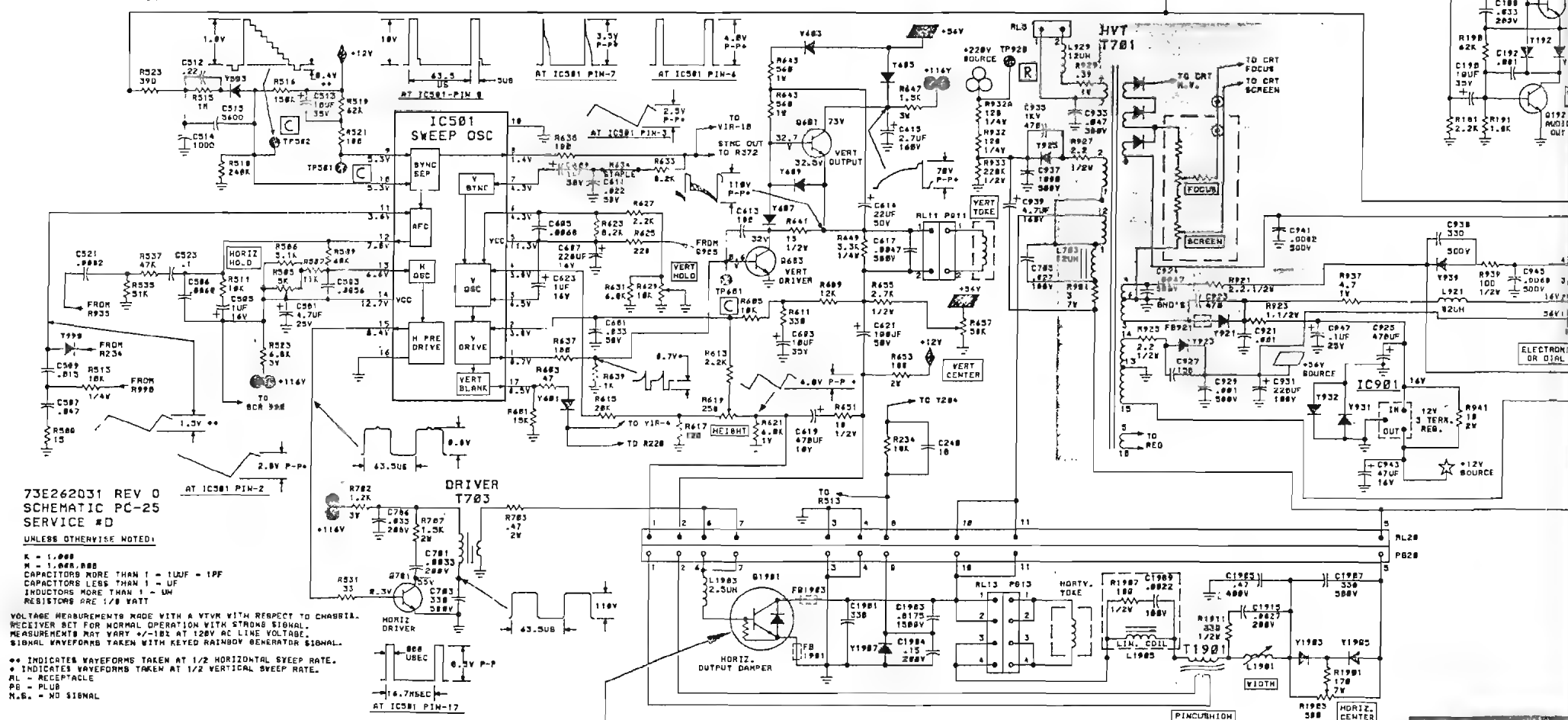
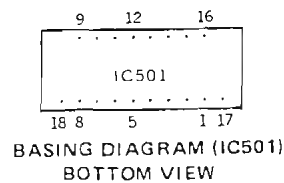
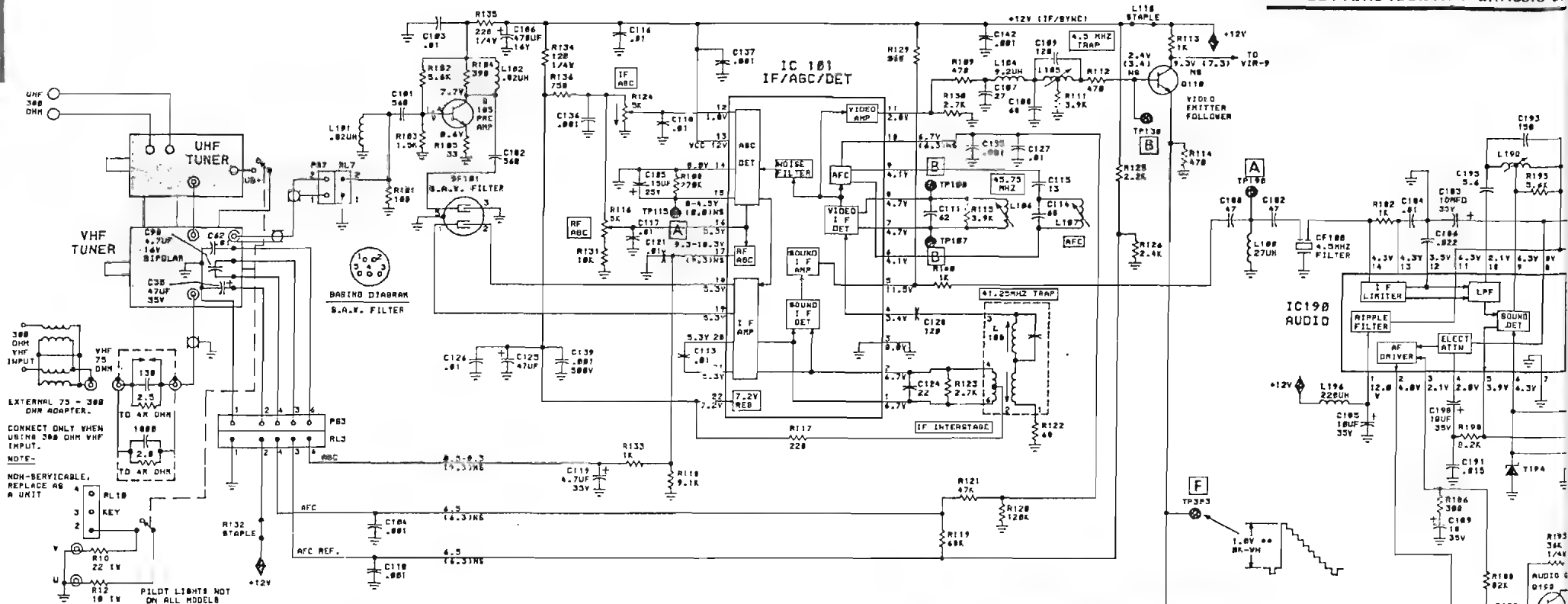
R222	EP14X415	82K ohm, 5%, 1/4W, Carbon
R224	EP14X103	10K ohm, 5%, 1/8W, Carbon
R226	ES14X59	560 ohm, 5%, 1/4W, Carbon
R228	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R230	ES14X71	1K ohm, 5%, 1/4W, Carbon
R234	EP14X414	18K ohm, 5%, 1/4W, Carbon
R240	ES14X71	1K ohm, 5%, 1/4W, Carbon
R250	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
R252	EP14X303	22K ohm, 5%, 1/8W, Carbon
R254	EP14X105	100K ohm, 5%, 1/8W, Carbon
R256	EP14X411	2.4K ohm, 5%, 1/4W, Carbon
R258	EP14X398	15K ohm, 5%, 1/4W, Carbon
R270	EP14X284	10 ohm, 5%, 1/8W, Carbon
R300	EP14X426	36K ohm, 5%, 1/4W, Carbon
R302	EP14X370	9.1K ohm, 5%, 1/4W, Carbon
R310	EP14X133	470K ohm, 5%, 1/8W, Carbon
R312	EP14X400	2.7K ohm, 5%, 1/4W, Carbon
R316	EP14X128	330 ohm, 5%, 1/4W, Carbon
R318	EP14X447	39K ohm, 5%, 1/4W, Carbon
R320	EP14X444	1.2K ohm, 5%, 1/8W, Carbon
R322	ES14X58	470 ohm, 5%, 1/4W, Carbon
R326	ES14X71	1K ohm, 5%, 1/4W, Carbon
R328	ES14X71	1K ohm, 5%, 1/4W, Carbon
R336	EP14X381	3K ohm, 5%, 1/4W, Carbon
R338	EP14X105	100K ohm, 5%, 1/4W, Carbon
R350	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
R352	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
R354	EP14X128	330 ohm, 5%, 1/4W, Carbon
R355	EP14X128	330 ohm, 5%, 1/4W, Carbon
R356	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
R358	EP14X128	330 ohm, 5%, 1/4W, Carbon
R370	EP14X284	1K ohm, 5%, 1/8W, Carbon
R372	EP14X402	300 ohm, 5%, 1/4W, Carbon
R380	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R381	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R389	EP14X382	820K ohm, 5%, 1/4W, Carbon
R391	EP14X418	5.1K ohm, 5%, 1/4W, Carbon
R503	EP14X323	6.8K ohm, 5%, 3W, Flame Proof
R506	EP14X418	5.1K ohm, 5%, 1/4W, Carbon
R507	EP14X376	11K ohm, 5%, 1/4W, Carbon
R508	EP14X188	15 ohm, 5%, 1/4W, Carbon
R509	EP14X119	68K ohm, 5%, 1/4W, Carbon
R511	EP14X103	10K ohm, 5%, 1/8W, Carbon
R513	EP14X103	10K ohm, 5%, 1/4W, Carbon
R516	EP14X453	150K ohm, 5%, 1/4W, Carbon
R517	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R518	EP14X425	240K ohm, 5%, 1/4W, Carbon
R519	EP14X422	62K ohm, 5%, 1/4W, Carbon
R521	ES14X56	33 ohm, 5%, 1/4W, Carbon
R523	ES14X59	560 ohm, 5%, 1/4W, Carbon
R525	EP14X131	47K ohm, 5%, 1/4W, Carbon
R527	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R528	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R529	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R531	EP14X409	10 ohm, 5%, 1/4W, Carbon
R532	ES14X61	820 ohm, 5%, 1/4W, Carbon
R535	EP14X104	22K ohm, 5%, 1/4W, Carbon
R537	EP14X131	47K ohm, 5%, 1/4W, Carbon
R601	EP14X398	15K ohm, 5%, 1/4W, Carbon
R603	ES14X51	47 ohm, 5%, 1/4W, Carbon
R605	EP14X103	10K ohm, 5%, 1/4W, Carbon
R609	EP14X122	7.5K ohm, 5%, 1/4W, Carbon
R611	EP14X128	330 ohm, 5%, 1/4W, Carbon
R613	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R615	EP14X285	20K ohm, 5%, 1/8W, Carbon
R617	EP14X129	220 ohm, 5%, 1/4W, Carbon
R621	EP14X388	6.8 ohm, 5%, 1W, Metal Oxide

(CONTINUED)

25PC-D CHASSIS

SEE SECTION ON ELECTRONIC TUNING SYSTEMS
FOR SERVICE INFORMATION ON ALL ELECTRO-
NIC TUNING MODELS.

RED LETTERS IDENTIFY CHASSIS LA



IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

73E262031 REV 0
SCHEMATIC PC-25
SERVICE #0
UNLESS OTHERWISE NOTED:

K = 1,000
M = 1,000,000
CAPACITORS MORE THAN 1 = 10UF = 1PF
CAPACITORS LESS THAN 1 = UF
INDUCTORS MORE THAN 1 = MH
RESISTORS ARE 1/8 WATT

VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS.
RECEIVER SET FOR NORMAL OPERATION WITH STRONG SIGNAL.
MEASUREMENTS MAY VARY +/-10% AT 120V AC LINE VOLTAGE.
SIGNAL WAVEFORMS TAKEN WITH KEYED RAINBOW GENERATOR SIGNAL.

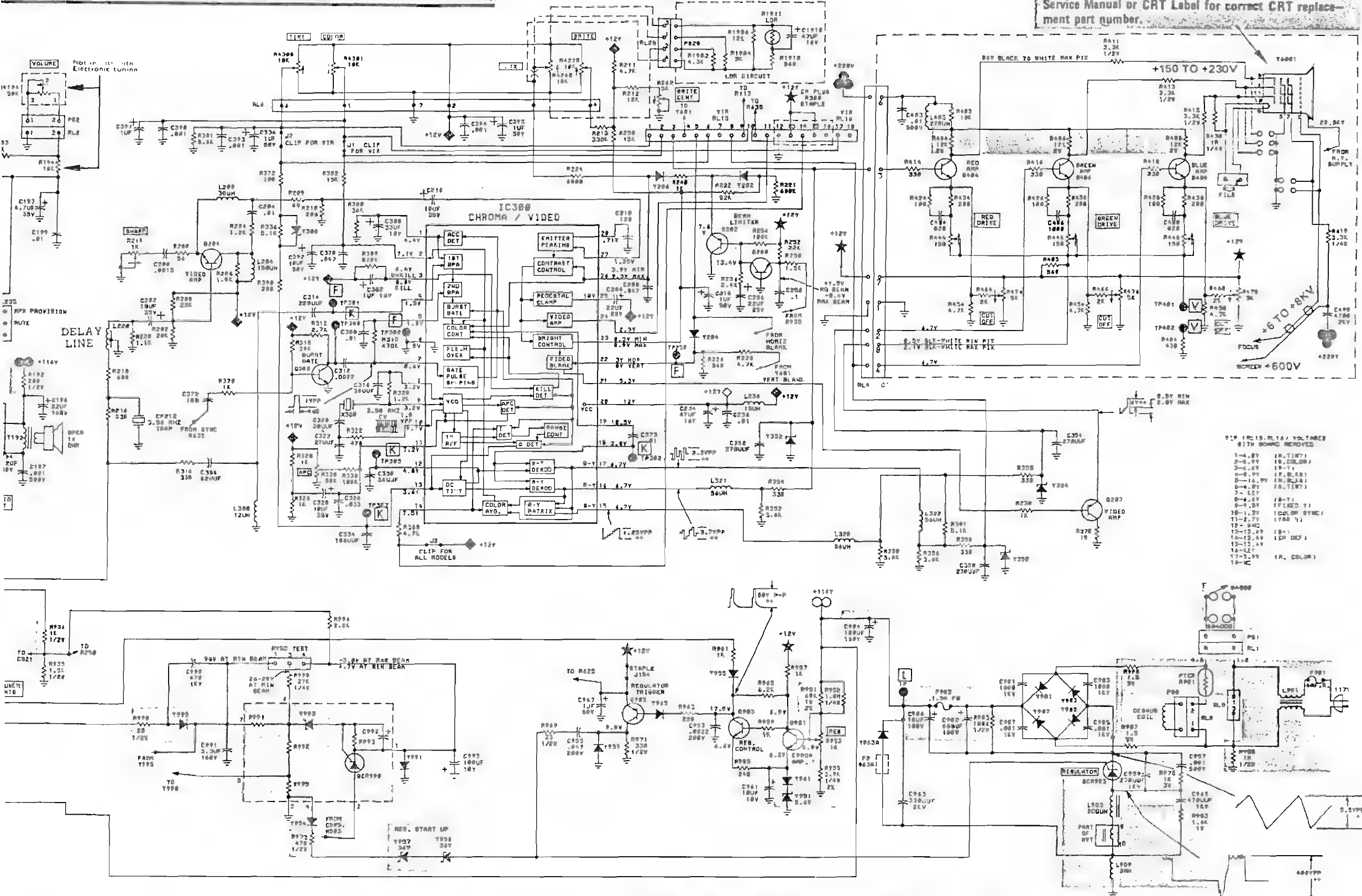
♦♦ INDICATES WAVEFORMS TAKEN AT 1/2 HORIZONTAL SWEEP RATE.
♦ INDICATES WAVEFORMS TAKEN AT 1/2 VERTICAL SWEEP RATE.
AL - RECEPTACLE
PB - PLUB
N.S. - NO SIGNAL

HORIZ. OUTPUT XSISTOR AND DAMPER DIODE ARE INCLUDED IN THE SAME UNIT. REPLACE ONLY WITH ORIGINAL EQUIPMENT GE CATALOG REPLACEMENT PART NUMBER EP15X218.

25PCED

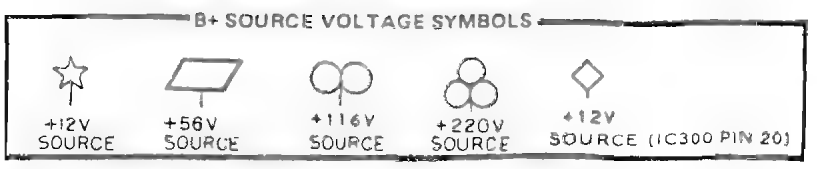
OUT GRID FOR TEST POINT LOCATION (SEE PC CHASSIS LAYOUT ON PAGE 7-10).

NOTE
Replace CRT (V6001) with the same type in the receiver or factory authorized substitute only. See Model Page in Service Manual or CRT Label for correct CRT replacement part number.



V.P. (R1, R14) VOLTAGES
WITH BOARD REMOVED

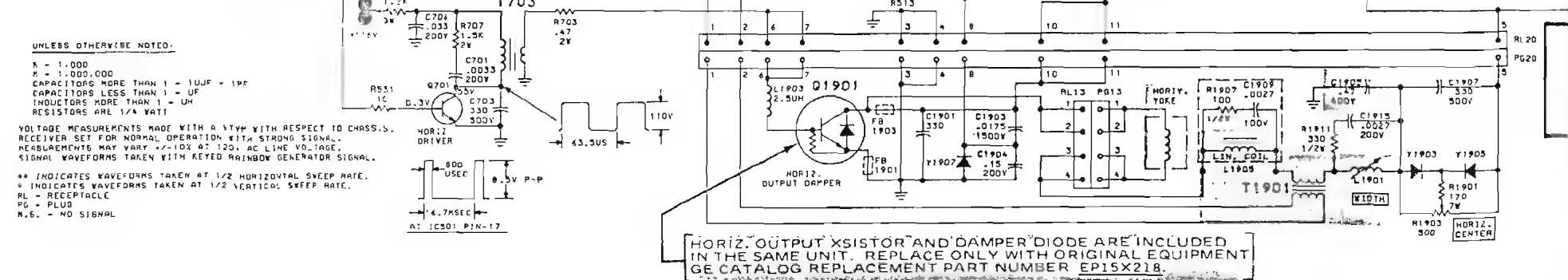
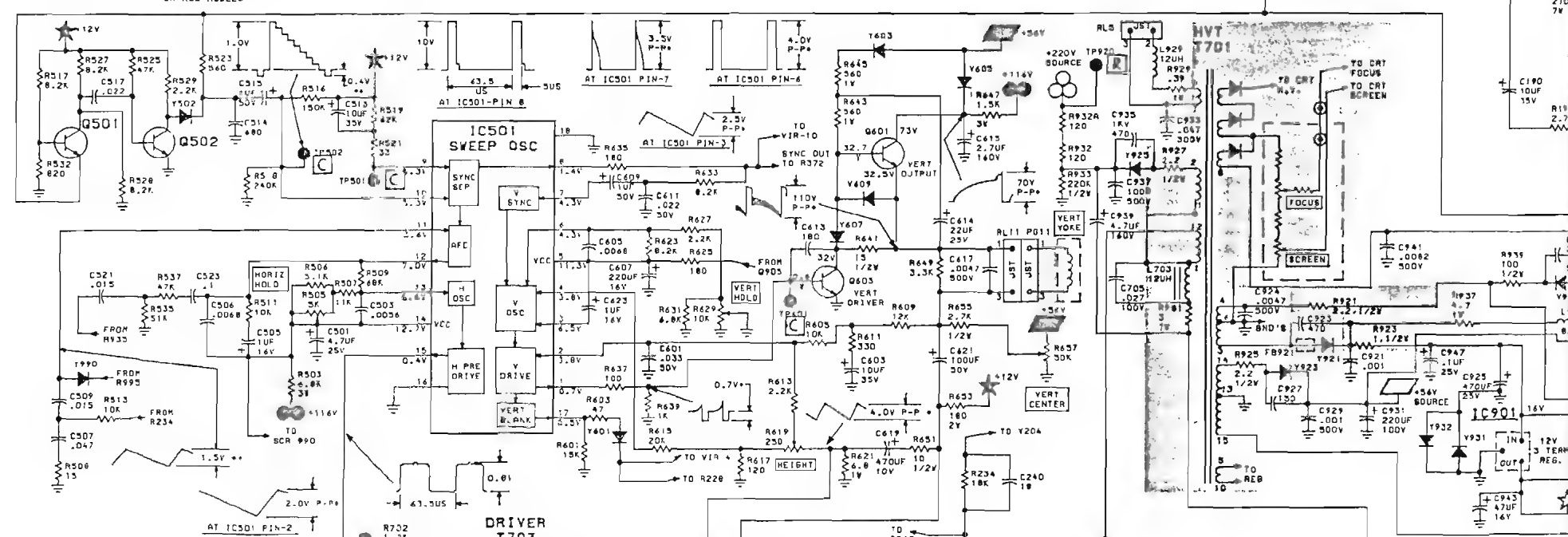
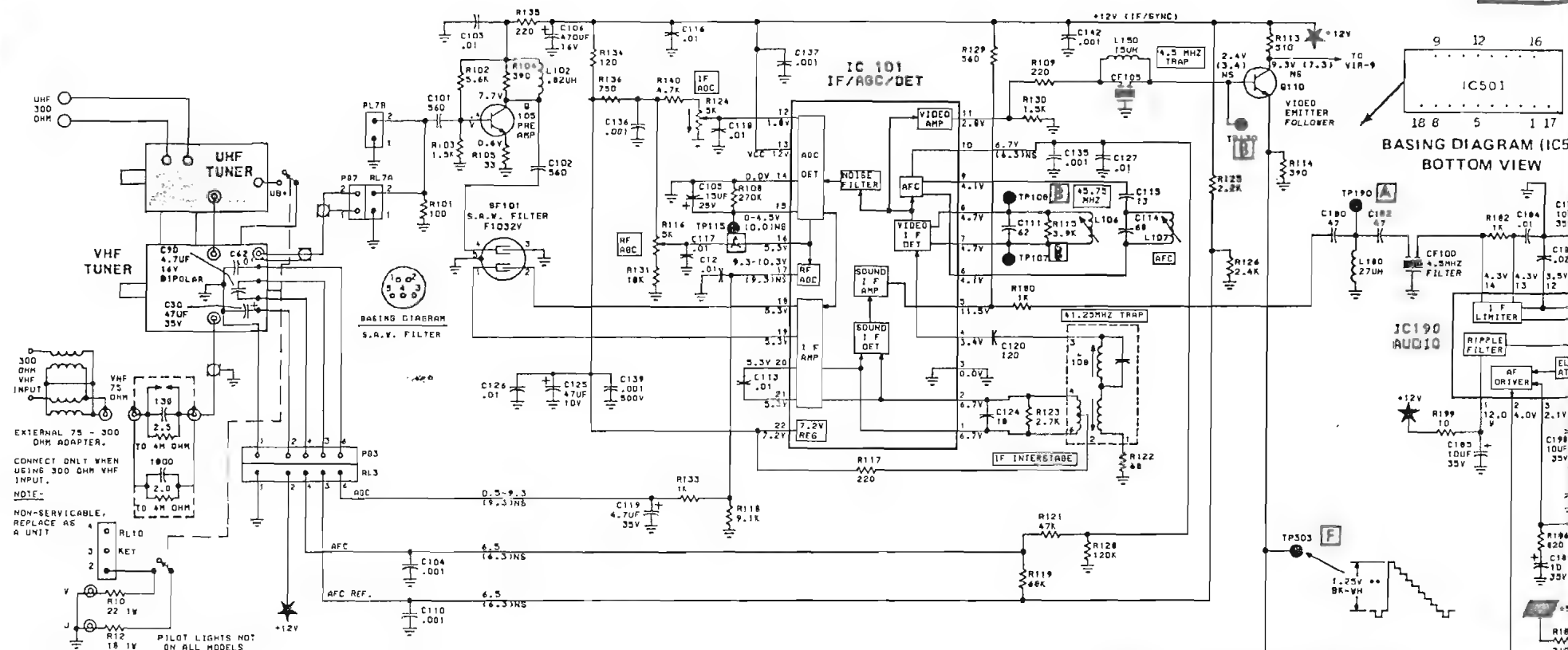
1-4.8V	(R-TIME)
5-6.9V	(R-COLOR)
7-8.9V	(R-T1)
9-10.9V	(R-B-C)
11-12.9V	(R-TIME)
13-14.9V	(R-T1)
15-16.9V	(R-TIME)
17-18.9V	(R-T1)
19-20.9V	(R-TIME)
21-22.9V	(R-T1)
23-24.9V	(R-TIME)
25-26.9V	(R-T1)
27-28.9V	(R-TIME)
29-30.9V	(R-T1)
31-32.9V	(R-TIME)
33-34.9V	(R-T1)
35-36.9V	(R-TIME)
37-38.9V	(R-T1)
39-40.9V	(R-TIME)
41-42.9V	(R-T1)
43-44.9V	(R-TIME)
45-46.9V	(R-T1)
47-48.9V	(R-TIME)
49-50.9V	(R-T1)
51-52.9V	(R-TIME)
53-54.9V	(R-T1)
55-56.9V	(R-TIME)
57-58.9V	(R-T1)
59-60.9V	(R-TIME)
61-62.9V	(R-T1)
63-64.9V	(R-TIME)
65-66.9V	(R-T1)
67-68.9V	(R-TIME)
69-70.9V	(R-T1)
71-72.9V	(R-TIME)
73-74.9V	(R-T1)
75-76.9V	(R-TIME)
77-78.9V	(R-T1)
79-80.9V	(R-TIME)
81-82.9V	(R-T1)
83-84.9V	(R-TIME)
85-86.9V	(R-T1)
87-88.9V	(R-TIME)
89-90.9V	(R-T1)
91-92.9V	(R-TIME)
93-94.9V	(R-T1)
95-96.9V	(R-TIME)
97-98.9V	(R-T1)
99-100.9V	(R-TIME)



MAIN CHASSIS SCHEMATIC DIAGRAM

25PC-D/F/H CHASSIS

SEE SECTION ON ELECTRONIC TUNING SYSTEMS FOR SERVICE INFORMATION ON ALL ELECTRONIC TUNING MODELS.



UNLESS OTHERWISE NOTED:

K = 1,000

M = 1,000,000

CAPACITORS MORE THAN 1 = 1UF = 1M

CAPACITORS LESS THAN 1 = UF

INDUCTORS MORE THAN 1 = MH

RESISTORS ARE 1/4 WATT

VOLTAGE MEASUREMENTS MADE WITH A VTVM WITH RESPECT TO CHASSIS.

RECEIVER SET FOR NORMAL OPERATION WITH STRONG SIGNAL.

MEASUREMENTS MAY VARY +/-10% AT 120V AC LINE VOLTAGE.

SIGNAL WAVEFORMS TAKEN WITH KEYED RAINBOW GENERATOR SIGNAL.

** INDICATES WAVEFORMS TAKEN AT 1/2 HORIZONTAL SWEEP RATE.

* INDICATES WAVEFORMS TAKEN AT 1/2 VERTICAL SWEEP RATE.

PG = PLUS

N.S. = NO SIGNAL

HORIZ. OUTPUT XSISTOR AND DAMPER DIODE ARE INCLUDED IN THE SAME UNIT. REPLACE ONLY WITH ORIGINAL EQUIPMENT GE CATALOG REPLACEMENT PART NUMBER EP15X218.

ment part number.

IC300 CHROMA / VIDEO

Table of component values:

Part	Value	Part	Value
R1	10K	R51	10K
R2	10K	R52	10K
R3	10K	R53	10K
R4	10K	R54	10K
R5	10K	R55	10K
R6	10K	R56	10K
R7	10K	R57	10K
R8	10K	R58	10K
R9	10K	R59	10K
R10	10K	R60	10K
R11	10K	R61	10K
R12	10K	R62	10K
R13	10K	R63	10K
R14	10K	R64	10K
R15	10K	R65	10K
R16	10K	R66	10K
R17	10K	R67	10K
R18	10K	R68	10K
R19	10K	R69	10K
R20	10K	R70	10K
R21	10K	R71	10K
R22	10K	R72	10K
R23	10K	R73	10K
R24	10K	R74	10K
R25	10K	R75	10K
R26	10K	R76	10K
R27	10K	R77	10K
R28	10K	R78	10K
R29	10K	R79	10K
R30	10K	R80	10K
R31	10K	R81	10K
R32	10K	R82	10K
R33	10K	R83	10K
R34	10K	R84	10K
R35	10K	R85	10K
R36	10K	R86	10K
R37	10K	R87	10K
R38	10K	R88	10K
R39	10K	R89	10K
R40	10K	R90	10K
R41	10K	R91	10K
R42	10K	R92	10K
R43	10K	R93	10K
R44	10K	R94	10K
R45	10K	R95	10K
R46	10K	R96	10K
R47	10K	R97	10K
R48	10K	R98	10K
R49	10K	R99	10K
R50	10K	R100	10K

IMPORTANT SAFETY NOTICE

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25PC-E/F/H MAIN CHASSIS REPLACEMENT PARTS LIST

IMPORTANT SAFETY NOTICE

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DIODE

25" PC E/F CHASSIS

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon

COILS & TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOKES-220uh, 10%
	EP36X451	COIL-Degaussing (2 Used)
	EP42X8	CONVERGENCE ASM.
	EP41X132	RELAY-(El. Tuning)
PT01	EP88X43	TRANSFORMER-Power (El. Tuning)
	EP76X39	YOKE

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-75 to 300 ohm (Antenna)
	EP2X594	BRACKET-CRT Corner Mounting, Plastic
	EP2X544	BRACKET-Ckt. Bd. Support, Plastic
	EP2X543	BRACKET-H.V.T. Brace, Plastic
	EP2X539	BRACKET-H.V.T. Support, Plastic
	EP2X542	BRACKET-VIR Board Mounting, Plastic
	EP8X51	CABLE-Coaxial, 7" W/Phono Plugs
	EP8X60	CABLE-Antenna Bracket To Tuner
	EP8X124	CABLE-ET91 to UHF & KMP To UHF
	EP2X90	CLAMP-Yoke & Conv. Retainer
	EP2X548	CLIP-Anode Retainer
RL1	EP8X93	CONNECTOR-5 Pos.
RL2	EP8X90	CONNECTOR-3 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL6	EP8X66	CONNECTOR-7 Pos.
RL7	EP8X68	CONNECTOR-2 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
RL10	EP8X94	CONNECTOR-3 Pos. (KMP112/LMP112/SET112)
PG12	EP8X30	CONNECTOR-1 Pin
RL16A	EP8X66	CONNECTOR-7 Pos. (El. Tuning)
RL16A	EP8X92	CONNECTOR-8 Pos. (Direct)
RL17	EP8X90	CONNECTOR-5 Pos.
RL18	EP8X71	CONNECTOR-6 Pos.
RL28	EP8X42	CONNECTOR-4 Pins
RL59	EP8X43	CONNECTOR-2 Pins
PG250	EP8X43	CONNECTOR-2 Pins
	*EP66X19	CORD-AC Power, Polarized, Wired In-Type
	EP3X53	CUSHION-Yoke Wedge
	EP92X101	FRAME-Front & Sides, For Main Board Support, Plastic
	EP92X102	FRAME-Rear Support, For Main Board, Plastic

CIRCUIT BOARD ASSEMBLIES

PART NO.	DESCRIPTION
	Main Circuit Board
EP93X550	RGB Circuit Board
EP93X537	Horiz. Heat Sink Circuit Board
EP93X462	VIR Circuit Board

CHASSIS

PARTS NOT ON CIRCUIT BOARDS

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C30	EP31X45	47uf, 35V, Elect.
C60	ES25X22	.01uf, 20%, 50V, Polyester
C90	EP31X161	4.7uf, 20%, 16V, Bi Polar, Elect.
C95	EP31X149	10uf, 35V, Elect.
C232	EP31X147	47uf, +100-10%, 250V, Elect.
C4000	EP18X81	1000pf, +80-20%, 1KV, HiK, Cer Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R10	EP14X154	22 ohm, 5%, 1W, Carbon
R12	EP14X54	18 ohm, 5%, 1W, Carbon
R29	EP14X326	VARSISTOR-"MOV", Metal Oxide
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	Horiz. Centering

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q100	ES15X125	NPN, Silicon
Q1901	EP15X218	NPN, Silicon

SG4000	EP41X145	SPARK GAP-(On Units W/Mechanical Tuners)
	EP34X41	SOCKET-Q100
	EU34X192	SOCKET-Pilot Light
	EP3X56	SPRING-CRT Ground
	EP3X54	SWITCH PAD-Foam Cushion
	EP90X3	Wire Tie

COILS & TR

REF. NO.	PART NO.
L50	ES36X82
	EP36X497
	EP42X8
	EP41X132
PT01	EP88X43

EP76X39

MISCELL

REF. NO.	PART NO.
	EP90X40

EP3X57
EP2X649

EP2X544
EP2X543
EP2X539
EP2X542

EP8X51
EP8X60
EP8X124

EP2X90
EP2X548
EP8X93
EP8X90
EP8X71
EP8X66
EP8X68
EP8X90
EP8X94

RL1
RL2
RL3
RL6
RL7
RL9
RL10

PG12
RL16A
RL16A
RL17
RL18
RL28
RL59
PG250
EP8X30
EP8X66
EP8X92
EP8X90
EP8X71
EP8X42
EP8X43
EP8X43
*EP66X19

EP3X53
EP92X101

EP92X102

SG4000 EP41X145

25" PC-H CHASSIS

CIRCUIT BOARD ASSEMBLIES

REF. NO.	PART NO.	DESCRIPTION
		Main Circuit Board
	EP93X550	RGB Circuit Board
	EP93X537	Horiz. Heat Sink Circuit Board
	EP93X462	VIR Circuit Board

CHASSIS

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C30	EP31X45	47uf, 35V, Elect.
C60	ES25X22	.01uf, 20%, 50V, Polyester
C90	EP31X161	4.7uf, 20%, 16V, Bi Polar, Elect.
C95	EP31X149	10uf, 35V, Elect.
C232	EP31X147	47uf, +100-10%, 250V, Elect.
C4000	EP18X81	1000pf, +80-20%, 1KV, HiK, Cer Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R10	EP14X154	22 ohm, 5%, 1W, Carbon
R12	EP14X54	18 ohm, 5%, 1W, Carbon
R29	EP14X326	VARSISTOR-"MOV", Metal Oxide
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	HORIZ. CENTERING-500 ohm, 10%

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q100	ES15X125	NPN, Silicon
Q1901	EP15X218	NPN, Silicon

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon

EP34X41
EU34X192
EP3X56
EP3X54
EP90X3

PC CHASSIS

TRANSFORMER

DESCRIPTION

CHOKE-220uH, 10%
COIL-Degaussing (1 Used)
CONVERGENCE ASM.
RELAY-(El. Tuning)
TRANSFORMER-Power (El.
Tuning)
YOKE

ACCESSORIES

DESCRIPTION

ADAPTOR-75 to 300 ohm
(Antenna)
ANODE CLIP
BRACKET-CRT Corner Mounting,
Plastic
BRACKET-Ckt. Bd. Support, Plastic
BRACKET-H.V.T. Brace, Plastic
BRACKET-H.V.T. Support, Plastic
BRACKET-VIR Board Mounting,
Plastic
CABLE-Coaxial, 7' W/Phono Plugs
CABLE-Antenna Bracket To Tuner
CABLE-ET91 to UHF & KMP To
UHF
CLAMP-Yoke & Conn. Retainer
CLIP-Anode Retainer
CONNECTOR-5 Pos.
CONNECTOR-3 Pos.
CONNECTOR-6 Pos.
CONNECTOR-7 Pos.
CONNECTOR-2 Pos.
CONNECTOR-3 Pos.
CONNECTOR-3 Pos.
(KMP112/LMP112/SET112)
CONNECTOR-1 Pin
CONNECTOR-7 Pos. (El. Tuning)
CONNECTOR-8 Pos. (Direct)
CONNECTOR-5 Pos.
CONNECTOR-6 Pos.
CONNECTOR-4 Pins
CONNECTOR-2 Pins
CONNECTOR-2 Pins
CORD-AC Power, Polarized, Wired
In-Type
CUSHION-Yoke Wedge
FRAME-Front & Sides, For Main
Board Support, Plastic
FRAME-Rear Support, For Main
Board, Plastic
SPARK GAP-(On Units
W/Mechanical
Tuners)
SOCKET-Q100
SOCKET-Pilot Light
SPRING-CRT Ground
SWITCH PAD-Foam Cushion
Wire Tie

MAIN CIRCUIT BOARD PC-E/F/H 25"

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C103	EU22X216	.01μf, 20%, 50V, HiK, Cer. Disc
C104	EP18X220	1000pf, 10%, 500V, SHiK, Cer. Disc
C105	ES25X21	.15μf, 20%, 50V, Polyester
C106	EP31X159	470μf, 20%, 16V, Elect.
C110	EP18X259	1000pf, 10%, 500V, HiK, Cer. Disc
C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
C113	EP18X197	.01μf, 10%, 50V, SHiK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, Cer. Disc
C115	EP18X101	13pf, 5%, 50V, NPO, Cer. Disc
C116	EU22X216	.01μf, 20%, 50V, HiK, Cer. Disc
C117	EU22X216	.01μf, 20%, 50V, HiK, Cer. Disc
C118	EU22X216	.01μf, 20%, 50V, HiK, Cer. Disc
C119	EP31X170	4.7μf, 20%, 35V, Elect.
C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
C121	EU22X216	.01μf, 20%, 50V, HiK, Cer. Disc
C124	EP18X185	18pf, 5%, 50V, NPO, Cer. Disc
C125	EP31X45	47μf, 20%, 10V, Elect.
C126	EU22X216	.01μf, 20%, 50V, HiK, Cer. Disc
C127	EU22X216	.01μf, 20%, 50V, HiK, Cer. Disc
C135	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C136	EP18X259	1000pf, 10%, 500V, Cer. Disc
C137	EP18X259	1000pf, 10%, 500V, Cer. Disc
C139	EP18X259	1000pf, 10%, 500V, HiK, Cer. Disc
C142	EP18X259	1000pf, 20%, 500V, HiK, Cer. Disc
C180	EP18X189	47pf, 5%, 50V, Cer. Disc
C182	EP18X189	47pf, 5%, 50V, Cer. Disc
C183	EP31X149	10μf, 20%, 35V, Elect.
C184	EU22X216	.01μf, 20%, 50V, HiK, Cer. Disc
C185	EP31X149	10μf, 20%, 35V, Elect.
C186	EP25X130	.022μf, 10%, 50V, Polyester
C187	EP31X177	470μf, 20%, 50V, Elect.
C188	EP25X165	4700pf, 10%, 50V, Polyester
C189	EP31X149	10μf, 20%, 35V, Elect.
C190	EP31X149	10μf, 20%, 35V, Elect.
C191	EP25X13	.027μf, 10%, 50V, Polyester
C192	EP31X45	47μf, 20%, 35V, Elect.
C193	EP18X113	150pf, 5%, 50V, NPO, Cer. Disc
C194	EP31X141	220μf, 20%, 25V, Elect.
C195	EP18X182	5.6pf, 10%, 50V, Cer. Disc
C197	EP31X170	4.7μf, 20%, 35V, Elect.
C198	EP31X149	10μf, 20%, 35V, Elect.
C199	EP18X169	.01μf, 30%, 25V, Cer. Disc
C200	EP18X274	1500pf, 10%, 50V, SHiK, Cer. Disc
C202	EP31X149	10μf, 10%, 35V, Elect.
C204	EP18X169	.01μf, 30%, 25V, Cer. Disc
C206	EP31X172	22μf, 20%, 25V, Elect.
C208	EP18X172	.47μf, 20%, 50V, Elect.
C210	EP18X159	120pf, 5%, 50V, NPO, Cer. Disc
C216	EP31X149	10μf, 10%, 35V, Elect.
C218	EP31X166	1μf, 20%, 50V, Elect.
C234	EP31X88	47μf, 10%, 16V, Elect.
C236	EP18X169	.01μf, 30%, 25V, Elect.
C240	ES18X56	18pf, 10%, 500V, Cer. Disc
C250	EP25X77	.1μf, 20%, 50V, Polyester

C256	EP31X172	22μf, 20%, 25V, Elect.
C300	EP31X175	33μf, +50-20%, 10V, Elect.
C302	EP31X178	1μf, 10%, 16V, Tantalum
C306	EP18X280	82pf, 5%, 50V, Cer. Disc
C308	EU22X216	.01μf, 20%, 50V, HiK, Cer. Disc
C312	EP18X198	2200pf, 30%, 25V, HiK, Cer. Disc
C314	EP18X202	220pf, 10%, 50V, NPO, Cer. Disc
C316	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C320	EP18X219	30pf, 5%, 50V, Cer. Disc
C322	EP18X32	36pf, 5%, 50V, Cer. Disc
C326	EP25X124	.033μf, 20%, 50V, Polyester
C328	EP31X149	10μf, 20%, 35V, Elect.
C330	EP18X32	36pf, 5%, 50V, NPO, Cer. Disc
C334	EP18X194	100pf, 5%, 50V, Cer. Disc
C336	EP31X166	1μf, 20%, 50V, Elect.
C350	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C352	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C354	EP18X203	270pf, 10%, 50V, NPO, Cer. Disc
C370	EP25X87	.047μf, 20%, 50V, Polyester
C372	EP18X223	180pf, 10%, 50V, HiK, Cer. Disc
C373	EP18X169	.01μf, 30%, 25V, NPO, Cer. Disc
C390	EP18X220	1000pf, +80-20%, 500V, HiK Cer Disc
C391	EP31X166	1μf, 20%, 50V, Elect.
C392	EP31X150	10μf, 20%, 50V, Elect.
C393	EP18X259	1000pf, 10%, 500V, HiK, Cer. Disc
C394	EP18X220	1000pf, +80-20%, 500V, HiK Cer Disc
C395	EP31X166	1μf, 20%, 50V, Elect.
C501	EP31X170	4.7μf, 20%, 35V, Elect.
C503	EP25X149	5600pf, 5%, 100V, Polypropylene
C505	EP31X178	1μf, 10%, 16V, Tantalum
C506	EP25X150	6800pf, 10%, 50V, Polyester
C507	EP25X87	.047μf, 10%, 50V, Polyester
C509	EP25X80	.015μf, 10%, 50V, Polyester
C513	EP31X149	10μf, 20%, 35V, Elect.
C514	EP22X5	680pf, 10%, 50V, Cer. Disc
C515	EP31X166	1μf, 20%, 50V, Elect.
C517	EP25X183	.022μf, 10%, 50V, Polyester
C521	EP25X80	.015μf, 10%, 50V, Polyester
C523	EP25X77	.1μf, 20%, 50V, Polyester
C601	EP25X171	.033μf, 10%, 50V, Polyester
C603	EP31X149	10μf, 20%, 35V, Elect.
C605	EP18X229	6800pf, 10%, 50V, SHiK, Cer. Disc
C607	EP31X141	220μf, 20%, 16V, Elect.
C609	EP31X166	1μf, 20%, 50V, Elect.
C611	EP25X183	.022μf, 10%, 50V, Polyester
C613	EP18X286	180pf, 5%, 500V, Cer. Disc
C614	EP31X172	22μf, 20%, 25V, Elect.
C615	EP31X151	2.7μf, 20%, 160V, Elect.
C617	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C619	EP31X154	470μf, 20%, 10V, Elect.
C621	EP31X169	100μf, 20%, 50V, Elect.
C623	EP31X178	1μf, 10%, 35V, Tantalum
C701	EP25X110	3300pf, 10%, 200V, Mylar
C703	EP18X217	330pf, 10%, 500V, SHiK, Cer. Disc
C705	EP25X148	.027μf, 10%, 100V, Polyester
C706	EP25X146	.033μf, 20%, 200V, Mylar
C901	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
*C902	EP31X165	680μf, 20%, 180V, Elect.
C903	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
*C904	EP31X109	100μf, 10%, 160V, Elect.
C905	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
*C906	EP31X156	10μf, +50-20%, 180V, Elect.
C907	EP18X285	1000pf, +100-0%, 1KV, Cer. Disc
C921	ES22X76	1000pf, 20%, 500V, HiK, Cer. Disc

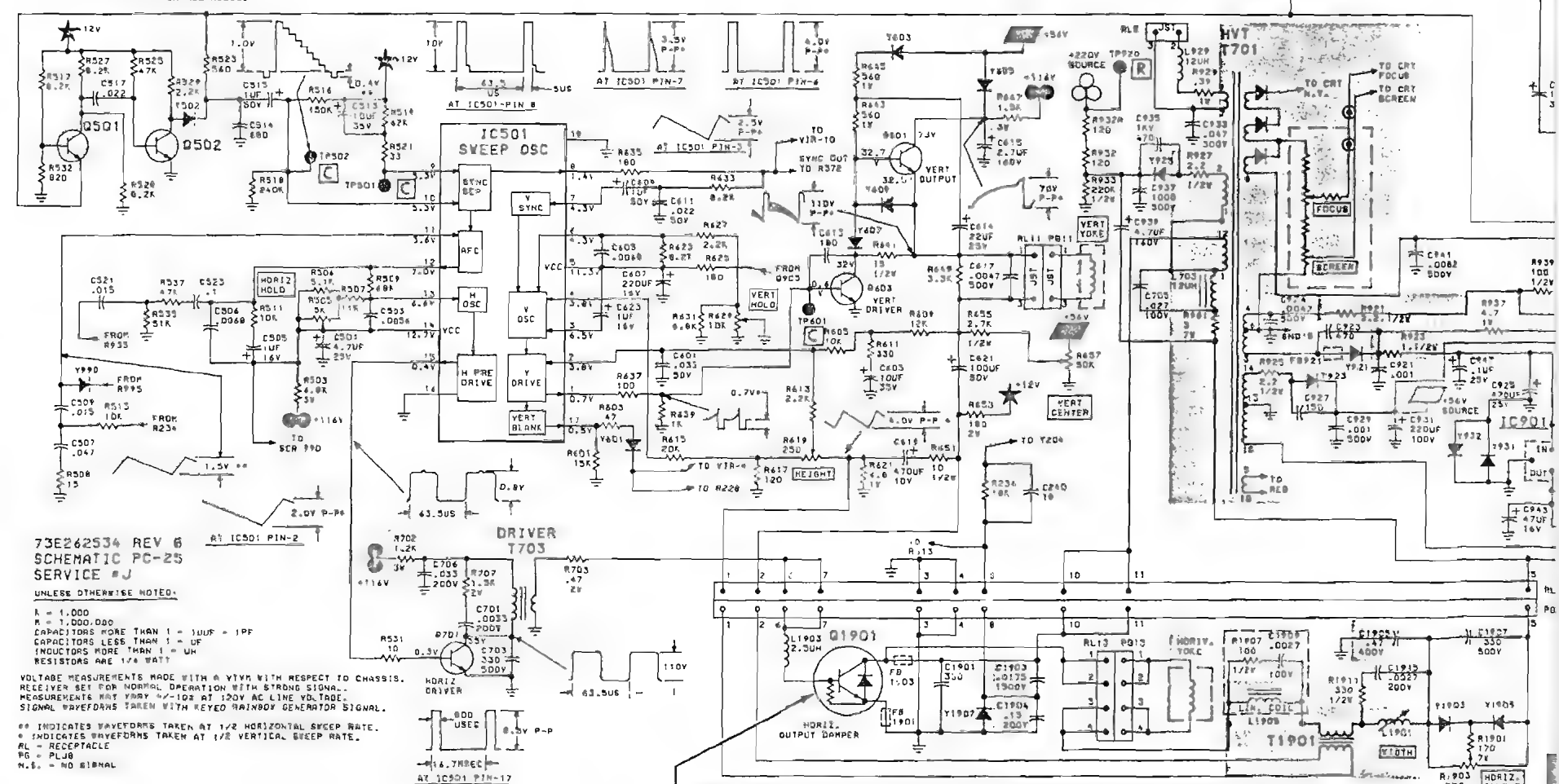
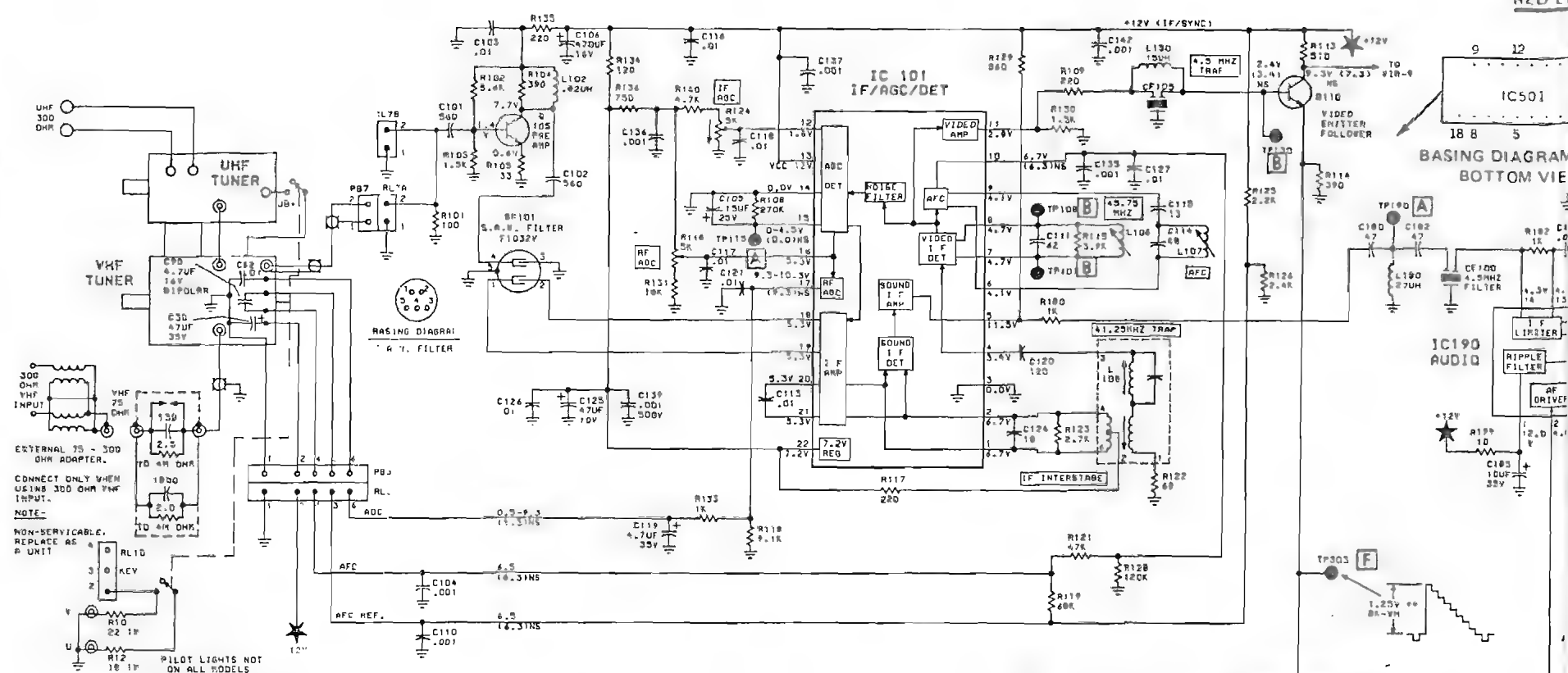
C923	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C924	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
C925	EP31X159	470μf, 20%, 25V, Elect.
C927	EP18X268	150pf, 20%, 1KV, HiK, Cer. Disc
C929	EP18X81	1000pf, 20%, 500V, Cer. Disc
C931	EP31X157	220μf, 20%, 100V, Elect.
C933	EP25X89	.047μf, 20%, 300V, Mylar
C935	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C937	EP18X81	1000pf, 20%, 500V, Cer. Disc
C938	EP18X217	330pf, 10%, 500V, Cer. Disc
C939	EP31X155	4.7μf, +50-20%, 160V, Elect.
C941	EP18X132	8200pf, 10%, 500V, Cer. Disc
C943	EP31X45	47μf, 20%, 16V, Elect.
C945	EP31X166	1μf, 20%, 50V, Elect.
C947	EP18X118	.1μf, 10%, 25V, Cer. Disc
C953	EP25X161	1800pf, 10%, 200V, Mylar
C955	EP20X20	.047μf, 10%, 200V, Mylar
C957	EP18X81	1000pf, 20%, 500V, Cer. Disc
C959	EP18X266	270pf, 20%, 1KV, SHiK, Cer. Disc
C961	ES31X32	100μf, 20%, 10V, Elect.
C963	ES18X13	330pf, 20%, 2KV, Cer. Disc
C965	EP18X11	470pf, 10%, 1KV, Cer. Disc
C967	EP31X166	1μf, 20%, 50V, Elect.
C990	EP18X279	470pf, 20%, 1KV, HiK, Cer. Disc
C991	EP31X160	3.3μf, +50-10%, 160V, Elect.
C993	EP31X169	100μf, 20%, 10V, Elect.

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
MOV963	EP14X326	VARIABLE
R101	ES14X70	100 ohm, 5%, 1/4W, Carbon
R102	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
R103	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
R104	ES14X57	390 ohm, 5%, 1/4W, Carbon
R105	ES14X56	33 ohm, 5%, 1/4W, Carbon
R108	EP14X97	270K ohm, 5%, 1/4W, Carbon
R109	EP14X318	220 ohm, 5%, 1/8W, Carbon
R113	EP14X373	510 ohm, 5%, 1/8W, Carbon
R114	ES14X57	390 ohm, 5%, 1/4W, Carbon
R115	EP14X407	3.9K ohm, 5%, 1/8W, Carbon
R117	EP14X318	220 ohm, 5%, 1/4W, Carbon
R118	EP14X370	9.1K ohm, 5%, 1/8W, Carbon
R119	EP14X119	68K ohm, 5%, 1/4W, Carbon
R121	EP14X131	47K ohm, 5%, 1/4W, Carbon
R122	EP14X182	68 ohm, 5%, 1/4W, Carbon
R123	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
R125	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R126	EP14X184	2.4K ohm, 5%, 1/8W, Carbon
R128	EP14X185	120K ohm, 5%, 1/4W, Carbon
R129	ES14X59	560 ohm, 5%, 1/4W, Carbon
R130	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
R131	EP14X414	15K ohm, 5%, 1/4W, Carbon
R133	ES14X71	1K ohm, 5%, 1/4W, Carbon
R134	EP14X378	120 ohm, 5%, 1/4W, Carbon
R135	EP14X318	220 ohm, 5%, 1/4W, Carbon
R136	EP14X385	750 ohm, 5%, 1/8W, Carbon
R140	EP14X249	4.7K ohm, 5%, 1/8W, Carbon
R180	ES14X71	1K ohm, 5%, 1/4W, Carbon
R181	EP14X455	210 ohm, 5%, 7W, Wirewound
R182	EP14X284	1K ohm, 5%, 1/8W, Carbon
R183	EP14X284	1K ohm, 5%, 1/8W, Carbon
R184A	EP14X115	430 ohm, 5%, 2W, Carbon
R184B	EP14X228	390 ohm, 5%, 2W, Metal Oxide
R185	ES14X71	1K ohm, 5%, 1/4W, Carbon
R186	ES14X61	820 ohm, 5%, 1/4W, Carbon

(CONTINUED)

SEE SECTION ON ELECTRONIC TUNING SYSTEMS
FOR SERVICE INFORMATION ON ALL ELECTRO-
NIC TUNING MODELS.



HORIZ. OUTPUT RESISTOR AND DAMPER DIODE ARE INCLUDED
IN THE SAME UNIT. REPLACE ONLY WITH ORIGINAL EQUIPMENT
GE CATALOG REPLACEMENT PART NUMBER EP15X218.

PC CHASSIS

25PC-J MAIN CHASSIS REPLACEMENT PARTS LIST

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

CIRCUIT BOARD ASSEMBLIES

PART NO.	DESCRIPTION
EP93X550	Main Circuit Board
EP93X537	RGB Circuit Board
EP93X462	Horiz. Heat Sink Circuit Board
EP93X462	VIR Circuit Board

CHASSIS

PARTS NOT ON CIRCUIT BOARDS

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C30	EP31X88	47µf, 25V, Elect.
C60	ES25X22	.01µf, 20%, 50V, Polyester
C90	EP31X161	4.7µf, 20%, 16V, B. Polar, Elect.
C95	EP31X149	10µf, 35V, Elect.
C232	EP31X147	47µf, +100-10%, 250V, Elect.
C4000	EP18X81	1000pf, +80-20%, 1KV, HiK, Cer. Disc

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R10	EP14X154	22 ohm, 5%, 1W, Metal Oxide
R12	EP14X481	18 ohm, 5%, 1W, Metal Oxide
R29	EP14X326	VARSISTOR-"MOV", Metal Oxide
R232	EP14X327	3K ohm, 5%, 5W, Flame Proof
R233	EP14X230	1.5K ohm, 5%, 3W, Flame Proof
R4003	EP14X385	750 ohm, 5%, 1/4W, Carbon

POTENTIOMETER

REF. NO.	PART NO.	DESCRIPTION
R1903	EP49X160	HORIZ. CENTERING-500 ohm, 10%

TRANSISTOR

REF. NO.	PART NO.	DESCRIPTION
Q100	ES15X125	NPN, Silicon
Q1901	EP15X218	NPN, Silicon

DIODE

REF. NO.	PART NO.	DESCRIPTION
Y232	EP57X4	Rectifier, Silicon
Y4001	EP41X14	L.E.D.-Red
Y4003	EP41X14	L.E.D.-Red

COILS AND TRANSFORMER

REF. NO.	PART NO.	DESCRIPTION
L50	ES36X82	CHOK-220µh, 10%
T1901	EP36X497	COIL-Degaussing (1 Used)
	EP36X448	COIL-Pincushion
	EP42X8	CONVERGENCE ASM.
	EP41X132	RELAY-(El. Tuning)
PT01	EP88X43	TRANSFORMER-Power (El. Tuning)
PT01	EP88X47	TRANSFORMER-Standby
PT04	EP88X54	TRANSFORMER-Power Stereo
T03	EP64X63	TRANSFORMER-Audio Isolation (Left)
T04	EP64X63	TRANSFORMER-Audio Isolation (Right)
	EP76X39	YOKE

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP90X40	ADAPTOR-75 to 300 ohm (Antenna)
	EP51X7	ANTENNA ISOLATION CABLE-W/Shield Box
	EP3X57	ANODE CLIP
	EP2X649	BRACKET-CRT Corner Mounting, Plastic
	EP2X544	BRACKET-Ckt. Bd. Support, Plastic
	EP2X543	BRACKET-H.V.T. Brace, Plastic
	EP2X539	BRACKET-H.V.T. Support, Plastic
	EP2X542	BRACKET-VIR Board Mounting, Plastic
	EP8X51	CABLE-Coaxial, 7" W/Phono Plugs
	EP8X60	CABLE-Antenna Bracket To Tuner
	EP8X124	CABLE-ET91 to UHF & KMP To UHF
	EP2X90	CLAMP-Yoke & Conv. Retainer
	ES3X29	CLIP-Antenna Terminal
	EP2X548	CLIP-Anode Retainer
RL1	EP8X93	CONNECTOR-5 Pos.
RL1A	EP8X67	CONNECTOR-4 Pos.
RL2	EP8X90	CONNECTOR-3 Pos.
RL3	EP8X71	CONNECTOR-6 Pos.
RL6	EP8X66	CONNECTOR-7 Pos.
RL7	EP8X68	CONNECTOR-2 Pos.
RL9	EP8X90	CONNECTOR-3 Pos.
RL10	EP8X90	CONNECTOR-3 Pos. (Mech. Tuner)
RL10	EP8X94	CONNECTOR-3 Pos. (El. Tuning)
PG12	EP8X30	CONNECTOR-1 Pin
RL16A	EP8X71	CONNECTOR-6 Pos. (MP1-112)
RL16A	EP8X66	CONNECTOR-7 Pos. (El. Tuning)
RL16A	EP8X92	CONNECTOR-8 Pos. (Direct)
RL17	EP8X90	CONNECTOR-5 Pos.
RL18	EP8X71	CONNECTOR-6 Pos.
RL28	EP8X42	CONNECTOR-4 Pins

RL59	EP8X43	CONNECTOR-2 Pins
RL244B	EP8X91	CONNECTOR-9 Pos.
PG250	EP8X43	CONNECTOR-2 Pins
	★ EP66X19	CORD-AC Power, Polarized, Wired In-Type
	EP3X53	CUSHION-Yoke Wedge
	EP92X101	FRAME-Front & Sides, For Main Board Support, Plastic
	EP92X102	FRAME-Rear Support, For Main Board, Plastic
J01/J02	EP8X127	JACK-Phono Type
SG4000	EP41X145	SPARK GAP-(On Units W/Mechanical Tuners)
	EP34X69	SOCKET-CRT
	EP34X41	SOCKET-Q100
RL51	EP34X72	SOCKET-L.E.D.
RL53	EP34X72	SOCKET-L.E.D.
	EU34X192	SOCKET-Pilot Light
	EP3X56	SPRING-CRT Ground
	EP3X54	SWITCH PAD-Foam Cushion
	EP90X3	Wire Tie

MAIN CIRCUIT BOARD PC-J 25"

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C101	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C102	EP18X205	560pf, 10%, 50V, SHiK, Cer. Disc
C103	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C104	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C105	EP25X187	.15µf, 20%, 50V, Polyester
C106	EP31X31	470µf, 20%, 16V, Elect.
C107	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C110	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C111	EP18X136	62pf, 5%, 50V, NPO, Cer. Disc
C113	EP18X197	.01µf, 10%, 50V, SHiK, Cer. Disc
C114	EP18X191	68pf, 5%, 50V, NPO, Cer. Disc
C115	EP18X101	13pf, 5%, 50V, NPO, Cer. Disc
C116	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C117	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C118	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C119	EP31X179	4.7µf, 20%, 35V, Elect.
C120	ES22X208	120pf, 10%, 50V, SHiK, Cer. Disc
C121	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C124	EP18X185	18pf, 5%, 50V, NPO, Cer. Disc
C125	EP31X45	47µf, 20%, 10V, Elect.
C126	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C127	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C135	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C136	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C137	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc

C139	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C142	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C180	EP18X189	47pf, 5%, 50V, NPO, Cer. Disc
C182	EP18X189	47pf, 5%, 50V, NPO, Cer. Disc
C183	EP31X149	10µf, 35V, Elect.
C184	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C185	EP31X149	10µf, 35V, Elect.
C186	EP25X183	.02µf, 20%, 50V, Polyester
C187	EP31X177	47pf, 5%, 50V, NPO, Cer. Disc
C188	EP25X165	47pf, 5%, 50V, NPO, Cer. Disc
C189	EP31X149	10µf, 35V, Elect.
C190	EP31X149	10µf, 35V, Elect.
C191	EP25X13	.02µf, 20%, 50V, Polyester
C192	EP31X45	47µf, 20%, 10V, Elect.
C193	EP18X113	15pf, 5%, 50V, NPO, Cer. Disc
C194	EP31X188	22pf, 5%, 50V, NPO, Cer. Disc
C195	EP18X182	5.6pf, 5%, 50V, NPO, Cer. Disc
C197	EP31X179	4.7µf, 20%, 35V, Elect.
C198	EP31X149	10µf, 35V, Elect.
C199	EP18X169	.01µf, +80-20%, 50V, HiK, Cer. Disc
C200	EP18X274	15pf, 5%, 50V, NPO, Cer. Disc
C201	EP18X202	22pf, 5%, 50V, NPO, Cer. Disc
C202	EP31X149	10µf, 35V, Elect.
C204	EP18X297	15pf, 5%, 50V, NPO, Cer. Disc
C206	EP31X172	22pf, 5%, 50V, NPO, Cer. Disc
C208	EP31X138	.4µf, 20%, 50V, Polyester
C210	EP18X113	15pf, 5%, 50V, NPO, Cer. Disc
C216	EP31X149	10µf, 35V, Elect.
C218	EP31X166	1µf, 20%, 50V, Polyester
C234	EP31X45	47µf, 20%, 10V, Elect.
C236	EP18X194	10µf, 35V, Elect.
C240	ES18X56	10µf, 35V, Elect.
C250	EP25X77	.1µf, 20%, 50V, Polyester
C256	EP31X172	22pf, 5%, 50V, NPO, Cer. Disc
C300	EP31X175	33pf, 5%, 50V, NPO, Cer. Disc
C302	EP31X178	1µf, 20%, 50V, Polyester
C306	EP18X280	8pf, 5%, 50V, NPO, Cer. Disc
C308	EP22X32	.01µf, +80-20%, 50V, HiK, Cer. Disc
C312	EP18X198	22pf, 5%, 50V, NPO, Cer. Disc
C314	EP18X202	22pf, 5%, 50V, NPO, Cer. Disc
C316	EU18X9	39pf, 5%, 50V, NPO, Cer. Disc
C320	EP18X219	33pf, 5%, 50V, NPO, Cer. Disc
C322	EP18X32	33pf, 5%, 50V, NPO, Cer. Disc
C326	EP25X124	.01µf, +80-20%, 50V, HiK, Cer. Disc
C328	EP31X149	10µf, 35V, Elect.
C330	EP18X32	33pf, 5%, 50V, NPO, Cer. Disc
C334	EP18X194	1µf, 20%, 50V, Polyester
C336	EP31X166	1µf, 20%, 50V, Polyester
C350	EP18X203	22pf, 5%, 50V, NPO, Cer. Disc
C352	EP18X203	22pf, 5%, 50V, NPO, Cer. Disc
C354	EP18X203	22pf, 5%, 50V, NPO, Cer. Disc
C370	EP25X87	.01µf, +80-20%, 50V, HiK, Cer. Disc
C372	EP18X298	1µf, 20%, 50V, Polyester
C373	EP18X169	.01µf, +80-20%, 50V, HiK, Cer. Disc
C390	EP18X220	1µf, 20%, 50V, Polyester
C391	EP31X166	1µf, 20%, 50V, Polyester
C392	EP31X149	10µf, 35V, Elect.
C393	EP18X259	1000pf, 10%, 500V, SHiK, Cer. Disc
C394	EP18X285	1µf, 20%, 50V, Polyester

PC CHASSIS

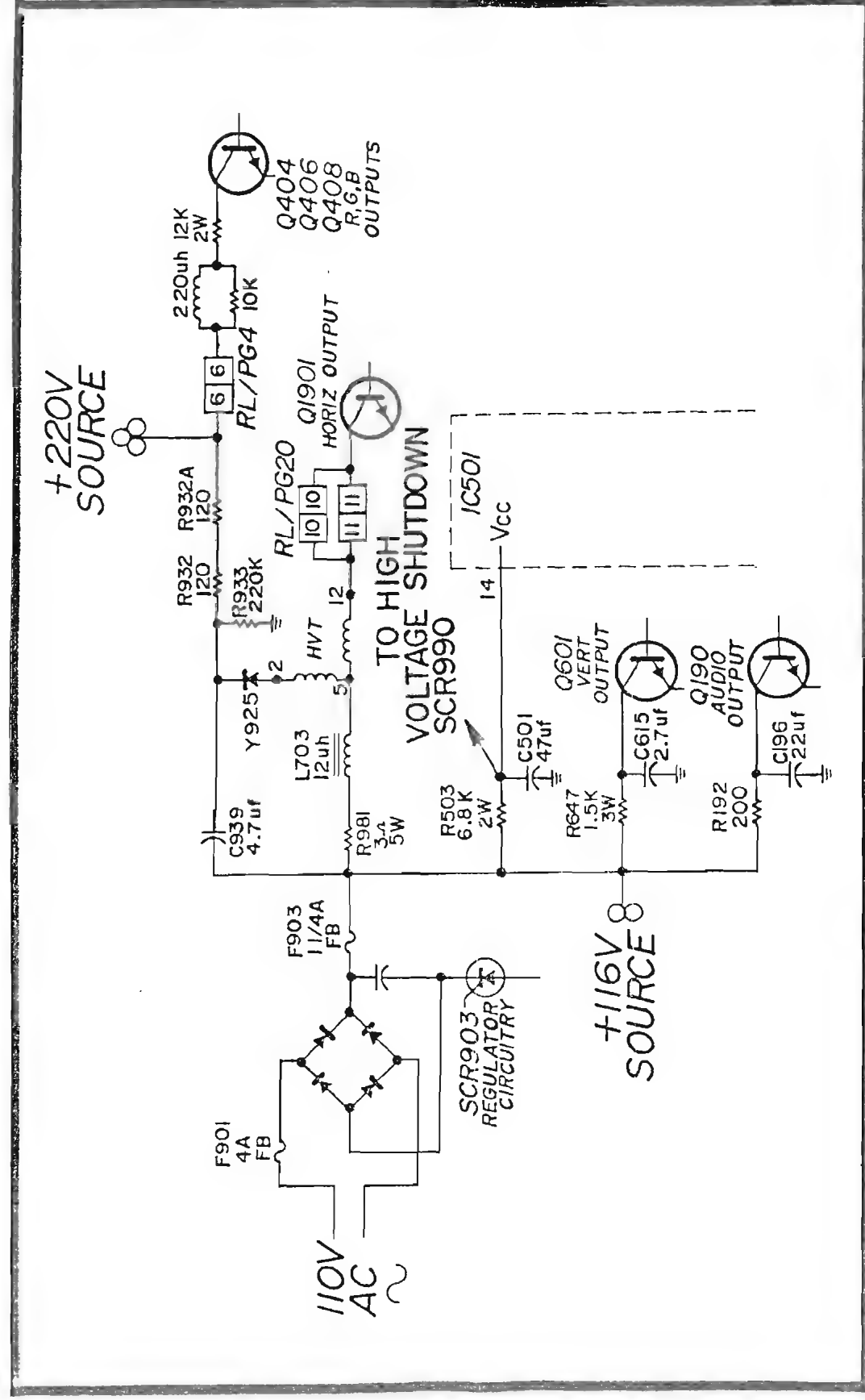
0pf, 10%, 500V, SHiK, Cer.	C395	EP31X166	1μf, 20%, 50V, Elect.
	C501	EP31X179	4.7μf, 20%, 35V, Elect.
0pf, 10%, 500V, SHiK, Cer.	C503	EP25X149	5600pf, 5%, 100V, Polypropylene
	C505	EP31X178	1μf, 10%, 16V, Tantalum
, 5%, 50V, NPO, Cer. Disc	C506	EP25X150	6800pf, 10%, 50V, Polyester
, 5%, 50V, NPO, Cer. Disc	C507	EP25X87	.047μf, 10%, 50V, Polyester
, + 80-20%, 35V, Elect.	C509	EP25X80	.015μf, 10%, 50V, Polyester
f, 20%, 50V, HiK, Cer. Disc	C513	EP31X149	10μf, 20%, 35V, Elect.
, 20%, 35V, Elect.	C514	EP22X5	680pf, 10%, 50V, Cer. Disc
μf, 10%, 50V, Polyester	C515	EP31X166	1μf, 20%, 50V, Elect.
μf, 20%, 50V, Elect.	C517	EP25X183	.022μf, 10%, 50V, Polyester
0pf, 10%, 50V, Polyester	C521	EP25X80	.015μf, 10%, 50V, Polyester
, 20%, 35V, Elect.	C523	EP25X77	.1μf, 20%, 50V, Polyester
, 20%, 35V, Elect.	C601	EP25X171	.033μf, 10%, 50V, Polyester
μf, 10%, 50V, Polyester	C603	EP31X149	10μf, 20%, 35V, Elect.
, 20%, 35V, Elect.	C605	EP18X229	6800pf, 10%, 50V, SHiK, Cer. Disc
pf, 5%, 50V, NPO, Cer. Disc	C607	EP31X188	220μf, 20%, 16V, Elect.
μf, 20%, 25V, Elect.	C609	EP31X166	1μf, 20%, 50V, Elect.
f, 10%, 50V, NPO, Cer. Disc	C611	EP25X183	.022μf, 10%, 50V, Polyester
f, 20%, 35V, Elect.	C613	EP18X286	180pf, 5%, 500V, N750, Cer. Disc
, 20%, 35V, Elect.	C614	EP31X172	22μf, 20%, 25V, Elect.
f, 30%, 25V, Cer. Disc	C615	EP31X94	2.7μf, 20%, 160V, Elect.
0pf, 10%, 50V, SHiK, Cer. Disc	C617	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
pf, 10%, 50V, HiK, Cer. Disc	C619	EP31X159	470μf, 20%, 10V, Elect.
, 10%, 35V, Elect.	C621	EP31X169	100μf, 20%, 50V, Elect.
pf, 10%, 50V, HiK, Cer. Disc	C623	EP31X178	1μf, 10%, 35V, Tantalum
f, 20%, 25V, Elect.	C701	EP25X110	3300pf, 10%, 200V, Mylar
μf, 20%, 50V, Elect.	C703	EP18X217	330pf, 10%, 500V, SHiK, Cer. Disc
pf, 5%, 50V, NPO, Cer. Disc	C705	EP25X148	.027μf, 10%, 100V, Polyester
f, 10%, 35V, Elect.	C706	EP25X146	.033μf, 20%, 200V, Mylar
, 20%, 50V, Elect.	C901	EP18X299	1000pf, + 100-0%, 1KV, Cer. Disc
f, 10%, 10V, Elect.	*C902	EP31X165	680μf, 20%, 180V, Elect.
pf, 5%, 50V, N750, Cer. Disc	C903	EP18X299	1000pf, + 100-0%, 1KV, Cer. Disc
f, 10%, 500V, N750, Cer. Disc	*C904	EP31X109	100μf, 10%, 160V, Elect.
, 20%, 50V, Polyester	C905	EP18X299	1000pf, + 100-0%, 1KV, Cer. Disc
f, 20%, 25V, Elect.	*C906	EP31X156	10μf, + 50-20%, 180V, Elect.
f, + 50-20%, 10V, Elect.	C907	EP18X299	1000pf, + 100-0%, 1KV, Cer. Disc
, 10%, 16V, Tantalum	C921	EP18X81	1000pf, 20%, 500V, HiK, Cer. Disc
f, 5%, 50V, N220, Cer. Disc	C923	EP18X279	470pf, 20%, 1KV, Cer. Disc
μf, + 80-20%, 50V, HiK, Cer.	C924	EP18X264	4700pf, 20%, 500V, HiK, Cer. Disc
>	C925	EP31X159	470μf, 20%, 25V, Elect
0pf, 30%, 25V, SSHiK, Cer.	C927	EP18X268	150pf, 20%, 1KV, HiK, Cer. Disc
>	C929	EP18X81	1000pf, 20%, 500V, Cer. Disc
pf, 10%, 50V, HiK, Cer. Disc	C931	EP31X157	220μf, 20%, 100V, Elect
f, 5%, 50V, NPO, Cer. Disc	C933	EP25X89	.047μf, 20%, 300V, Mylar
f, 5%, 50V, NPO, Cer. Disc	C935	EP18X279	470pf, 20%, 1KV, Cer. Disc
f, 5%, 50V, NPO, Cer. Disc	C937	EP18X81	1000pf, 20%, 500V, Cer. Disc
3μf, 20%, 50V, Polyester	C938	EP18X217	330pf, 10%, 500V, SHiK, Cer. Disc
f, 20%, 35V, Elect.	C939	EP31X155	4.7μf, + 50-20%, 160V, Elect
f, 5%, 50V, NPO, Cer. Disc	C941	EP18X132	8200pf, 10%, 500V, SHiK, Cer. Disc
pf, 5%, 50V, N750, Cer. Disc			
, 20%, 50V, Elect.	C943	EP31X45	47μf, 20%, 10V, Elect.
pf, 10%, 50V, HiK, Cer. Disc	C944	EP25X95	.22μf, 10%, 50V, Polyester
pf, 10%, 50V, HiK, Cer. Disc	C945	EP31X166	1μf, 20%, 50V, Elect.
pf, 10%, 50V, HiK, Cer. Disc	C947	EP18X118	.1μf, 10%, 25V, Cer. Disc
7μf, 20%, 50V, Polyester	C953	EP25X161	1800pf, 10%, 200V, Mylar
pf, 10%, 50V, HiK, Cer. Disc	C955	EP20X20	.047μf, 10%, 200V, Mylar
μf, 30%, 25V, SSHiK, Cer. Disc	C957	EP18X81	1000pf, 20%, 500V, Cer. Disc
0pf, + 80-20%, 500V, HiK Cer	C959	EP18X266	270pf, 20%, 1KV, SHiK, Cer. Disc
>	C961	ES31X62	100μf, 20%, 10V, Elect.
, 20%, 50V, Elect.	C963	ES18X13	330pf, 20%, 2KV, Cer. Disc
f, 20%, 35V, Elect.	C965	EP18X11	470pf, 10%, 1KV, Cer. Disc
0pf, 10%, 500V, SHiK, Cer.	C967	EP31X166	1μf, 20%, 50V, Elect.
c	C990	EP18X279	470pf, 20%, 1KV, Cer. Disc
0pf, + 100-0%, 500V, HiK Cer.	C991	EP31X160	3.3μf, + 50-10%, 160V, Elect.
c	C993	EP31X169	100μf, 20%, 10V, Elect.

RESISTORS

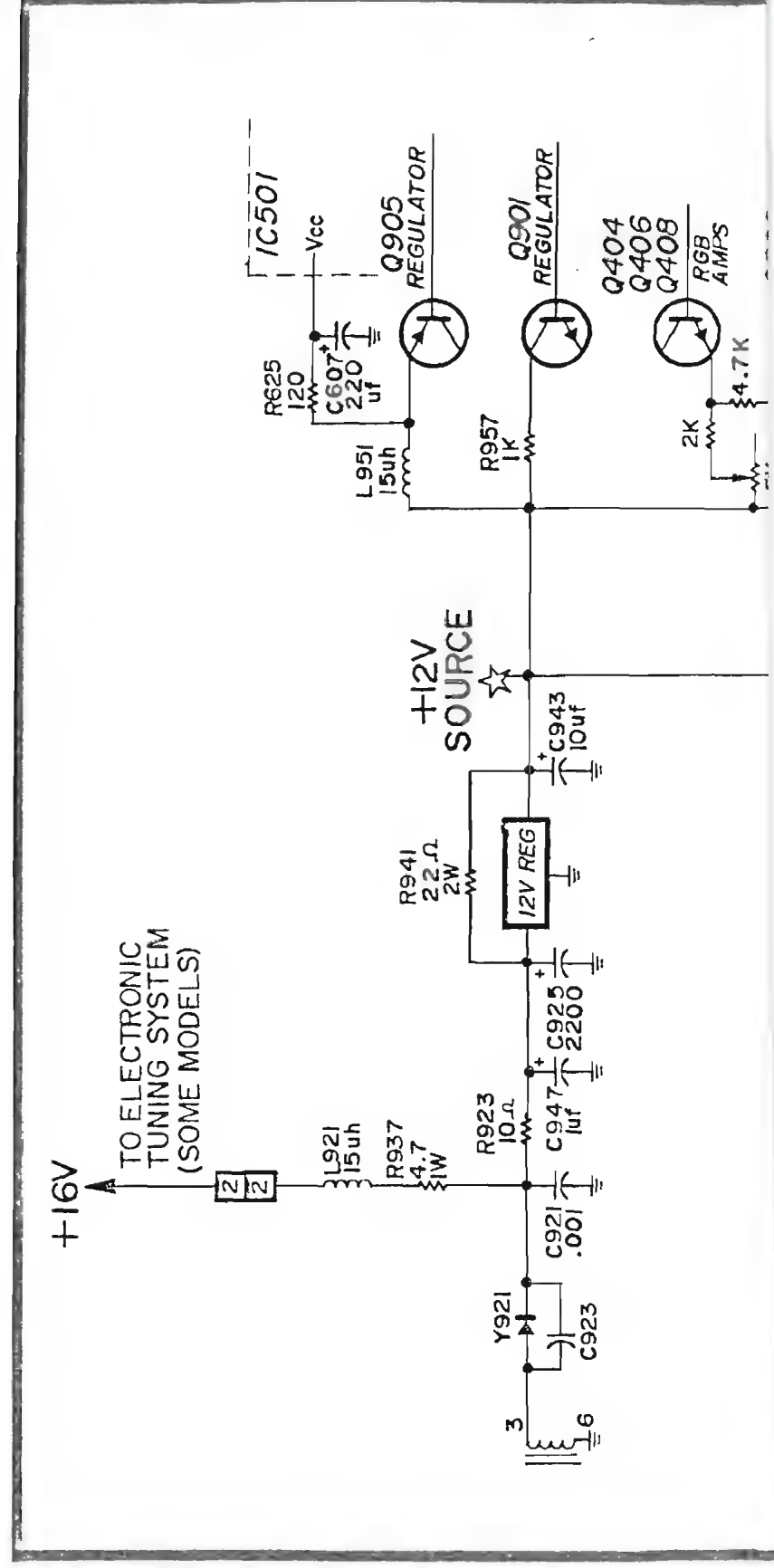
REF. NO.	PART NO.	DESCRIPTION
MOV963	EP14X473	VARISTOR
R101	ES14X70	100 ohm, 5%, 1/4W, Carbon
R102	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
R103	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
R104	ES14X57	390 ohm, 5%, 1/4W, Carbon
R105	ES14X56	33 ohm, 5%, 1/4W, Carbon
R108	EP14X97	270K ohm, 5%, 1/4W, Carbon
R109	EP14X318	220 ohm, 5%, 1/8W, Carbon
R113	EP14X373	510 ohm, 5%, 1/8W, Carbon
R114	ES14X57	390 ohm, 5%, 1/4W, Carbon
R115	EP14X407	3.9K ohm, 5%, 1/8W, Carbon
R117	EP14X318	220 ohm, 5%, 1/4W, Carbon
R118	EP14X370	9.1K ohm, 5%, 1/4W, Carbon
R119	EP14X119	68K ohm, 5%, 1/4W, Carbon
R121	EP14X131	47K ohm, 5%, 1/4W, Carbon
R122	EP14X182	68 ohm, 5%, 1/4W, Carbon
R123	EP14X304	2.7K ohm, 5%, 1/8W, Carbon
R125	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R126	EP14X184	2.4K ohm, 5%, 1/8W, Carbon
R128	EP14X185	120K ohm, 5%, 1/4W, Carbon
R129	ES14X59	560 ohm, 5%, 1/4W, Carbon
R130	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
R131	EP14X414	18K ohm, 5%, 1/4W, Carbon
R133	ES14X71	1K ohm, 5%, 1/4W, Carbon
R134	EP14X378	120 ohm, 5%, 1/4W, Carbon
R135	EP14X318	220 ohm, 5%, 1/4W, Carbon
R136	EP14X385	750 ohm, 5%, 1/8W, Carbon
R140	EP14X249	4.7K ohm, 5%, 1/8W, Carbon
R180	ES14X71	1K ohm, 5%, 1/4W, Carbon
R181	EP14X455	210 ohm, 5%, 7W, Wirewound
R182	EP14X284	1K ohm, 5%, 1/8W, Carbon
R183	EP14X284	1K ohm, 5%, 1/8W, Carbon
R184A	EP14X115	430 ohm, 5%, 2W, Carbon
R184B	EP14X228	390 ohm, 5%, 2W, Metal Oxide
R185	ES14X71	1K ohm, 5%, 1/4W, Carbon
R186	ES14X61	820 ohm, 5%, 1/4W, Carbon
R187	ES14X71	1K ohm, 5%, 1/4W, Carbon
R188	EP14X434	39 ohm, 5%, 1/4W, Carbon
R189	ES14X80	2.2 ohm, 5%, 1/2W, Carbon
R190	ES14X80	2.2 ohm, 5%, 1/2W, Carbon
R191	EP14X447	39K ohm, 5%, 1/4W, Carbon
*R192	EP14X380	27K ohm, 5%, 1/4W, Carbon
R193	EP14X421	4.3K ohm, 5%, 1/4W, Carbon
R194	EP14X103	10K ohm, 5%, 1/4W, Carbon
R195	EP14X400	2.7K ohm, 5%, 1/4W, Carbon
R196	EP14X105	100K ohm, 5%, 1/4W, Carbon
R197	EP14X400	2.7K ohm, 5%, 1/4W, Carbon
R198	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R199	EP14X409	10 ohm, 5%, 1/4W, Carbon
R200	EP14X318	220 ohm, 5%, 1/4W, Carbon
R201	EP14X404	51 ohm, 5%, 1/8W, Carbon
R202	EP14X285	20K ohm, 5%, 1/8W, Carbon
R203	ES14X70	100 ohm, 5%, 1/8W, Carbon
R204	EP14X469	330 ohm, 5%, 1/8W, Carbon
R205	EP14X103	10K ohm, 5%, 1/2W, Carbon
R206	EP14X190	1.8K ohm, 5%, 1/8W, Carbon
R208	EP14X303	22K ohm, 5%, 1/8W, Carbon
R209	ES14X61	820 ohm, 5%, 1/4W, Carbon
R210	ES14X64	2K ohm, 5%, 1/4W, Carbon
R211	EP14X421	4.3K ohm, 5%, 1/8W, Carbon
R212	EP14X284	12K ohm, 5%, 1/8W, Carbon
R213	EP14X140	330 ohm, 5%, 1/8W, Carbon
R216	EP14X420	270 ohm, 5%, 1/8W, Carbon
R217	ES14X61	820 ohm, 5%, 1/8W, Carbon
R218	EP14X289	430 ohm, 5%, 1/8W, Carbon
R220	EP14X283	680 ohm, 5%, 1/8W, Carbon
R221	EP14X293	680K ohm, 5%, 1/4W, Carbon
R222	EP14X415	82K ohm, 5%, 1/4W, Carbon
R224	EP14X103	10K ohm, 5%, 1/8W, Carbon
R226	ES14X59	560 ohm, 5%, 1/4W, Carbon
R228	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R230	EP14X103	10K ohm, 5%, 1/4W, Carbon
R234	EP14X414	18K ohm, 5%, 1/4W, Carbon
R240	ES14X71	1K ohm, 5%, 1/4W, Carbon
R250	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
R252	EP14X303	22K ohm, 5%, 1/8W, Carbon
R254	EP14X105	100K ohm, 5%, 1/8W, Carbon
R256	EP14X411	2.4K ohm, 5%, 1/4W, Carbon
R258	EP14X398	15K ohm, 5%, 1/4W, Carbon
R263	EP14X103	10K ohm, 5%, 1/4W, Carbon
R270	EP14X284	10 ohm, 5%, 1/8W, Carbon
R300	EP14X426	36K ohm, 5%, 1/4W, Carbon
R302	EP14X370	9.1K ohm, 5%, 1/4W, Carbon
R310	EP14X133	470K ohm, 5%, 1/8W, Carbon
R312	EP14X400	2.7K ohm, 5%, 1/4W, Carbon
R316	EP14X128	330 ohm, 5%, 1/4W, Carbon
R318	EP14X447	39K ohm, 5%, 1/4W, Carbon
R320	EP14X444	1.2K ohm, 5%, 1/8W, Carbon
R322	ES14X58	470 ohm, 5%, 1/4W, Carbon
R326	ES14X71	1K ohm, 5%, 1/4W, Carbon
R328	ES14X71	1K ohm, 5%, 1/4W, Carbon
R336	EP14X381	3K ohm, 5%, 1/4W, Carbon
R338	EP14X105	100K ohm, 5%, 1/4W, Carbon
R350	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
R352	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
R354	EP14X128	330 ohm, 5%, 1/4W, Carbon
R355	EP14X128	330 ohm, 5%, 1/4W, Carbon
R356	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
R358	EP14X128	330 ohm, 5%, 1/4W, Carbon
R370	EP14X284	1K ohm, 5%, 1/8W, Carbon
R372	EP14X402	300 ohm, 5%, 1/4W, Carbon
R380	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
R381	EP14X180	5.6K ohm, 5%, 1/8W, Carbon
R389	EP14X382	820K ohm, 10%, 1/4W, Carbon
R391	EP14X418	5.1K ohm, 5%, 1/8W, Carbon
R503	EP14X323	6.8K ohm, 5%, 3W, Flame Proof
R506	EP14X418	5.1K ohm, 5%, 1/4W, Carbon
R507	EP14X376	11K ohm, 5%, 1/4W, Carbon
R508	EP14X188	15 ohm, 5%, 1/4W, Carbon
R509	EP14X119	68K ohm, 5%, 1/4W, Carbon
R511	EP14X103	10K ohm, 5%, 1/8W, Carbon
R513	EP14X103	10K ohm, 5%, 1/4W, Carbon
R516	EP14X453	150K ohm, 5%, 1/4W, Carbon
R517	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R518	EP14X425	240K ohm, 5%, 1/4W, Carbon
R519	EP14X422	62K ohm, 5%, 1/4W, Carbon
R521	ES14X56	33 ohm, 5%, 1/4W, Carbon
R523	ES14X59	560 ohm, 5%, 1/4W, Carbon
R525	EP14X131	47K ohm, 5%, 1/4W, Carbon
R527	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R528	EP14X424	8.2K ohm, 5%, 1/4W, Carbon
R529	EP14X243	2.2K ohm, 5%, 1/4W, Carbon
R531	EP14X409	10 ohm, 5%, 1/4W, Carbon
R532	ES14X61	820 ohm, 5%, 1/4W, Carbon
R535	EP14X386	51K ohm, 5%, 1/4W, Carbon
R537	EP14X131	47K ohm, 5%, 1/4W, Carbon
R601	EP14X398	15K ohm, 5%, 1/4W, Carbon
R603	ES14X51	47 ohm, 5%, 1/4W, Carbon

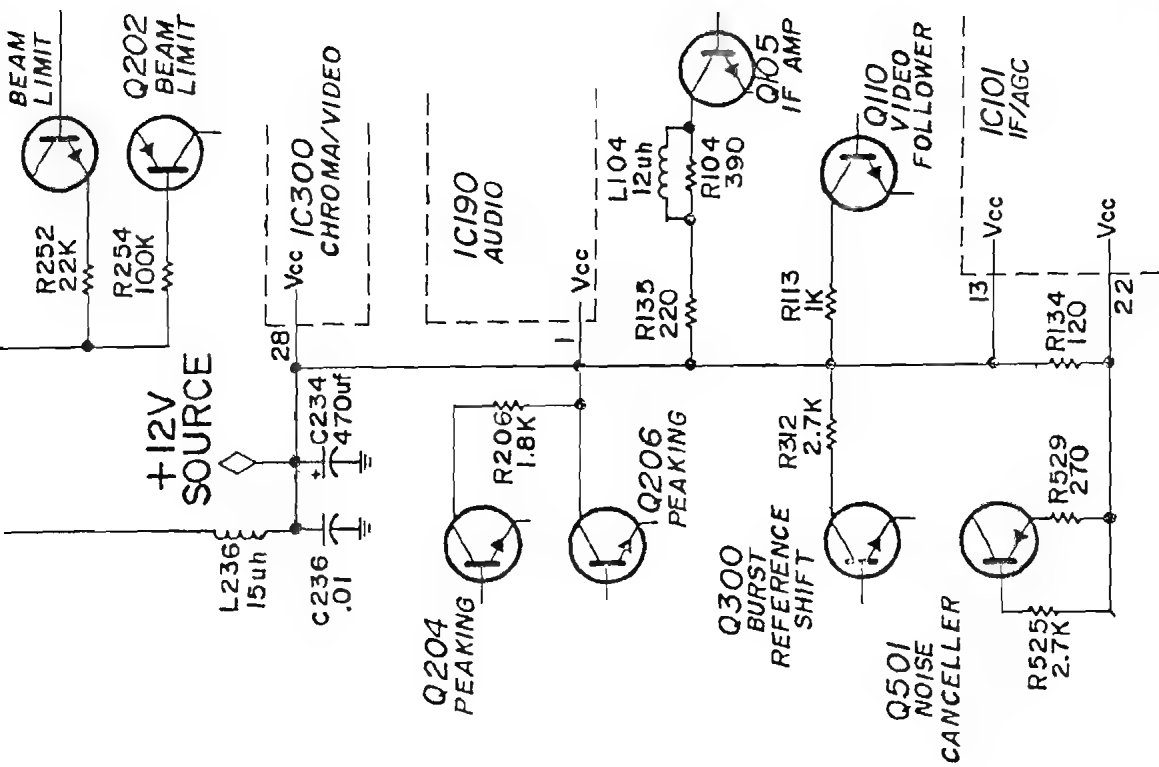
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B+ DISTRIBUTION CIRCUITS—

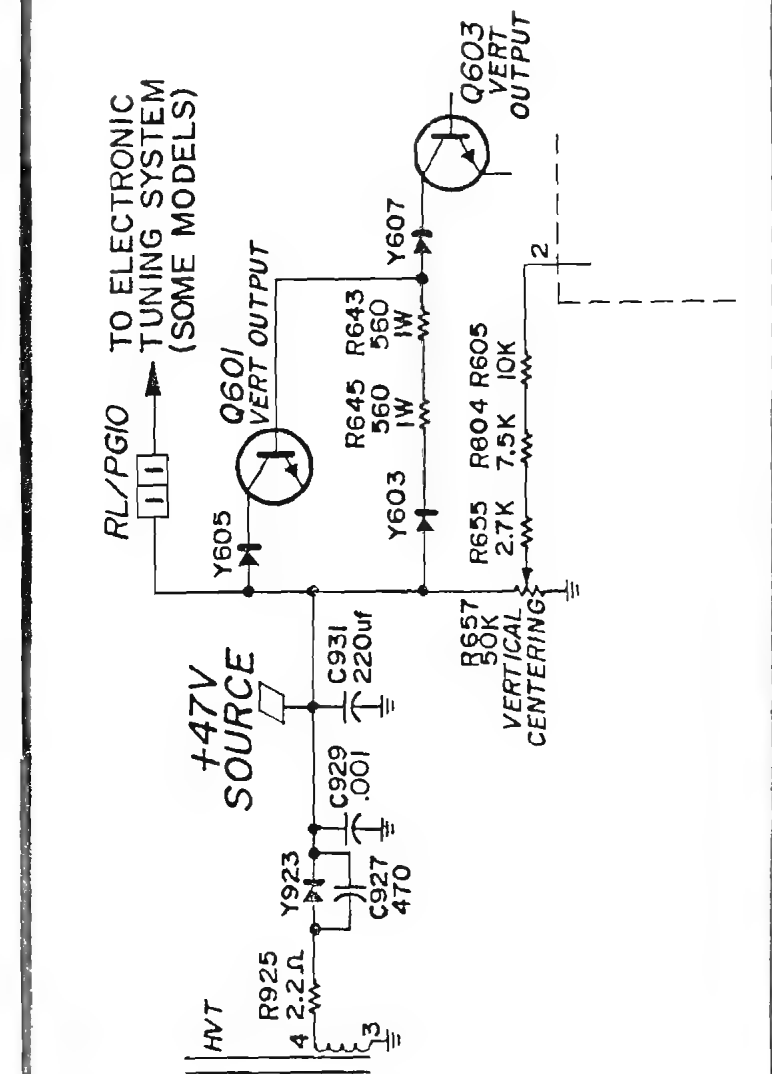


B+ 116V SOURCE





B+ 12V SOURCE



B+ 47V SOURCE

PC

KMP91 TUNING SYSTEM

Printed Circuit Board Assemblies

REF. NO.	PART NO.	DESCRIPTION
	EP93X312	KMP-91 Control Module
★	EP93X387/388	UHF/VHF Tuner
MISCELLANEOUS (Parts Not On Modules)		
R232	EP14X319	RESISTOR, 8.6K ohm, 5%, 5W, Film Type
R233	EP14X261	RESISTOR, 3K ohm, 5%, 2W, Metal Oxide
C232	EP31X147	CAPACITOR, 47uf, +50 -10%, 80V, Elect
Y232	EP57X4	DIODE - Rectifier
	EP92X88	BRACKET, KMP91 Control Mtg. Plastic
RL9	EP8X90	CONNECTOR - 3 Pos.
RL38	EP8X94	CONNECTOR, 4 Pos
RL212	EP8X92	CONNECTOR, 8 Pos.
PG207	EP8X88	CONNECTOR, 5 Pin
RG232	EP8X41	CONNECTOR, 3 Pin
PG/RL233	EP8X43	CONNECTOR, 2 Pin
PG255	EP8X30	CONNECTOR, 1 Pin
	EP93X185	KEYBOARD-Channel Select
	EP8X124	CABLE - KMP to UHF
	EP8X103	CABLE - KMP to VHF

KMP91 CONTROL MODULE

EP93X312

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C102	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C104	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C106	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C108	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C110	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C112	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C117	ES31X31	47uf, 20%, 16V, Elect.
C119	EP17X1	100pf, 10%, 50V, NPO, Cer.
C123	ES31X53	47uf, 20%, 50V, Elect.
C124	ES31X48	.68uf, 10%, 16V, Elect.
C126	ES31X31	47uf, 20%, 16V, Elect.
C127	EP31X148	1000uf, +50-10%, 25V, Elect.
C128	EP18X169	.01uf, +80-20%, 50V, HiK, Cer.
C133	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C164	EP17X1	100pf, 10%, 50V, NPO, Cer.
C165	EP18X188	33pf, 5%, 50V, Cer.
C166	EP18X187	27pf, 5%, 50V, NPO, Cer.
C167	EP21X2	3pf, 5%, 50V, NPO, Cer. Chip
C168	ES22X6	1000pf, +80-20%, 50V, HiK, Cer.
C169	ES22X6	1000pf, +80-20%, 50V, HiK, Cer.
C170	ES22X6	1000pf, +80-20%, 50V, HiK, Cer.
C171	EP18X169	.01uf, +80-20%, 50V, HiK, Cer.
C173	ES22X6	1000pf, +80-20%, 50V, HiK, Cer.
C174	EP31X144	4.7uf, 20%, 50V, Elect.
C176	EP18X169	.01uf, +80-20%, 50V, HiK, Cer.

C179	EP18X169	.01uf, +80-20%, 50V, HiK, Cer.
C181	ES22X6	1000pf, +80-20%, 50V, HiK, Cer.
C182	ES22X6	1000pf, +80-20%, 50V, HiK, Cer.
C183	EP18X169	.01uf, +80-20%, 50V, HiK, Cer.
C203	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C205	EP18X169	.01uf, +80-20%, 50V, HiK, Cer.
C207	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C208	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C210	EP18X169	.01uf, +80-20%, 50V, HiK, Cer.
C213	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C215	EP18X206	.022uf, +80-20%, 50V, HiK, Cer.
C217	EP31X149	10uf, 20%, 35V, Elect.
C221	EP18X167	.047uf, +80-20%, 50V, HiK, Cer.
C222	EP25X77	.10uf, 10%, 50V, Polyester
C223	EP18X167	.047uf, +80-20%, 50V, HiK, Cer.
C226	EP31X151	10uf, 20%, 50V, Elect.

RESISTORS

R101	EP14X284	10K ohm, 5%, 1/4W, Carbon
R102	EP14X193	47K ohm, 5%, 1/4W, Carbon
R103	EP14X284	10K ohm, 5%, 1/4W, Carbon
R104	EP14X193	47K ohm, 5%, 1/4W, Carbon
R105	EP14X284	10K ohm, 5%, 1/4W, Carbon
R106	EP14X193	47K ohm, 5%, 1/4W, Carbon
R107	EP14X284	10K ohm, 5%, 1/4W, Carbon
R108	EP14X193	47K ohm, 5%, 1/4W, Carbon
R109	EP14X284	10K ohm, 5%, 1/4W, Carbon
R110	EP14X193	47K ohm, 5%, 1/4W, Carbon
R111	EP14X284	10K ohm, 5%, 1/4W, Carbon
R112	EP14X193	47K ohm, 5%, 1/4W, Carbon
R113	EP14X284	10K ohm, 5%, 1/4W, Carbon
R115	EP14X303	22K ohm, 5%, 1/4W, Carbon
R116	EP14X303	22K ohm, 5%, 1/4W, Carbon
R119	EP14X309	39K ohm, 5%, 1/4W, Carbon
R120	EP14X303	100K ohm, 5%, 1/4W, Carbon
R121	EP14X193	47K ohm, 5%, 1/4W, Carbon
R122	EP14X303	100K ohm, 5%, 1/4W, Carbon
R123	Common	270K ohm, 5%, 1/4W, Carbon
R124	Common	470K ohm, 5%, 1/4W, Carbon
R125	EP14X193	47K ohm, 5%, 1/4W, Carbon
R126	EP14X283	680 ohm, 5%, 1/4W, Carbon
R127	EP14X283	680 ohm, 5%, 1/4W, Carbon
R128	EP14X284	10K ohm, 5%, 1/4W, Carbon
R129	EP14X284	10K ohm, 5%, 1/4W, Carbon
R130	EP14X303	22K ohm, 5%, 1/4W, Carbon
R131	EP14X303	22K ohm, 5%, 1/4W, Carbon
R132	EP14X284	10K ohm, 5%, 1/4W, Carbon
R133	EP14X193	47K ohm, 5%, 1/4W, Carbon
R135	EP14X284	10K ohm, 5%, 1/4W, Carbon
R136	EP14X284	10K ohm, 5%, 1/4W, Carbon
R137	EP14X284	10K ohm, 5%, 1/4W, Carbon
R138	EP14X284	10K ohm, 5%, 1/4W, Carbon
R139	EP14X303	470 ohm, 5%, 1/4W, Carbon
R140	EP14X303	470 ohm, 5%, 1/4W, Carbon
R141	EP14X303	470 ohm, 5%, 1/4W, Carbon
R142	EP14X303	470 ohm, 5%, 1/4W, Carbon
R143	EP14X303	470 ohm, 5%, 1/4W, Carbon
R144	EP14X303	470 ohm, 5%, 1/4W, Carbon
R145	EP14X303	470 ohm, 5%, 1/4W, Carbon
R146	EP14X303	470 ohm, 5%, 1/4W, Carbon
R147	EP14X303	470 ohm, 5%, 1/4W, Carbon
R148	EP14X303	470 ohm, 5%, 1/4W, Carbon
R149	EP14X303	470 ohm, 5%, 1/4W, Carbon
R150	EP14X303	470 ohm, 5%, 1/4W, Carbon
R151	EP14X303	470 ohm, 5%, 1/4W, Carbon
R152	EP14X303	470 ohm, 5%, 1/4W, Carbon
R153	Common	3.3K ohm, 5%, 1/4W, Carbon

R154	EP14X284	10K ohm, 5%, 1/4W, Carbon
R155	EP14X284	10K ohm, 5%, 1/4W, Carbon
R156	EP14X303	22K ohm, 5%, 1/4W, Carbon
R157	EP14X284	10K ohm, 5%, 1/4W, Carbon
R158	EP14X303	22K ohm, 5%, 1/4W, Carbon
R159	EP14X284	10K ohm, 5%, 1/4W, Carbon
R160	EP14X303	22K ohm, 5%, 1/4W, Carbon
R161	EP14X284	10K ohm, 5%, 1/4W, Carbon
R162	EP14X303	22K ohm, 5%, 1/4W, Carbon
R163	EP14X193	47K ohm, 5%, 1/4W, Carbon
R164	EP14X284	10K ohm, 5%, 1/4W, Carbon
R165	EP14X271	33K ohm, 5%, 1/4W, Carbon
R167	ES14X70	100 ohm, 5%, 1/4W, Carbon
R169	Common	51 ohm, 5%, 1/4W, Carbon
R170	Common	91 ohm, 5%, 1/4W, Carbon
R171	ES14X59	560 ohm, 5%, 1/4W, Carbon
R172	EP14X285	15K ohm, 5%, 1/4W, Carbon
R173	EP14X249	4.7K ohm, 5%, 1/4W, Carbon
R174	EP14X284	10K ohm, 5%, 1/4W, Carbon
R175	EP14X284	10K ohm, 5%, 1/4W, Carbon
R176	Common	270K ohm, 5%, 1/4W, Carbon
R177	EP14X193	47K ohm, 5%, 1/4W, Carbon
R178	EP14X303	100K ohm, 5%, 1/4W, Carbon
R179	EP14X303	22K ohm, 5%, 1/4W, Carbon
R199	EP14X283	680 ohm, 5%, 1/4W, Carbon
R200	EP14X284	10K ohm, 5%, 1/4W, Carbon
R201	EP14X284	10K ohm, 5%, 1/4W, Carbon
R202	EP14X193	47K ohm, 5%, 1/4W, Carbon
R203	EP14X180	5.6K ohm, 5%, 1/4W, Carbon
R204	EP14X303	22K ohm, 5%, 1/4W, Carbon
R205	EP14X193	47K ohm, 5%, 1/4W, Carbon
R206	EP14X180	5.6K ohm, 5%, 1/4W, Carbon
R207	EP14X303	100K ohm, 5%, 1/4W, Carbon
R208	EP14X303	100K ohm, 5%, 1/4W, Carbon
R209	EP14X303	22K ohm, 5%, 1/4W, Carbon
R210	EP14X193	47K ohm, 5%, 1/4W, Carbon
R211	Common	3.3K ohm, 5%, 1/4W, Carbon
R212	EP14X303	100K ohm, 5%, 1/4W, Carbon
R213	EP14X285	15K ohm, 5%, 1/4W, Carbon
R214	EP14X285	15K ohm, 5%, 1/4W, Carbon
R215	EP14X193	47K ohm, 5%, 1/4W, Carbon
R217	EP14X209	33 ohm, 5%, 1W, Metal Oxide
R220	EP14X180	5.6K ohm, 5%, 1/4W, Carbon
R221	EP14X250	2.2K ohm, 5%, 1/4W, Carbon
R222	EP14X271	33K ohm, 5%, 1/4W, Carbon
R223	EP14X303	470 ohm, 5%, 1/4W, Carbon
R224	EP14X253	820 ohm, 5%, 1/4W, Carbon
R225	Common	220 ohm, 5%, 1/4W, Carbon
R226	EP14X284	10K ohm, 5%, 1/4W, Carbon
R227	EP14X131	1.8K ohm, 5%, 1/4W, Carbon
R230	EP14X284	10K ohm, 5%, 1/4W, Carbon
R231	EP14X284	10K ohm, 5%, 1/4W, Carbon
R232	EP14X283	680 ohm, 5%, 1/4W, Carbon
R233	EP14X284	10K ohm, 5%, 1/4W, Carbon
R234	EP14X284	10K ohm, 5%, 1/4W, Carbon
R235	EP14X243	2.2 ohm, 5%, 1/4W, Carbon

INTEGRATED CIRCUITS

X165	EP41X68	Crystal Filter
IC10	EP84X111	Select Gate
IC20	EP84X110	7-Seg Driver
IC30	EP84X110	7-Seg Driver
IC40	EP84X219	Microcomputer
IC50	EP84X220	PLL/Prescaler

TRANSISTO

Q120	ES15X90
Q125	EP15X88
Q160	EP15X88
Q170	EP15X104
Q175	EP15X88
Q176	ES15X90
Q200	ES15X90
Q203	ES15X90
Q205	EP15X88
Q207	ES15X90
Q210	EP15X88
Q212	ES15X90
Q214	ES15X90
Q220	EP15X219
Q225	EP15X88
Q230	ES15X90

DIODES

Y126	EP57X4
Y127	EP16X72
Y202	EP16X153
Y214	ES16X27
Y218	EP16X152
Y226	EP16X32
Y232	EP16X153
Y234	ES16X27
Y235	ES16X27

COILS

L169	EP36X307
L179	EP36X136

POWER SUPPLY INTE

REF. NO.	PART NO.
----------	----------

RESISTORS	
★ R128	EP14X48
R129	ES14X58
R130	EP14X105
TRANSISTO	
Q100	ES15X125
DIODES	
Y129	EP16X155
Y130	EP57X5

P. Silicon
M. Silicon
N. Silicon
Bipolar
M. Silicon
P. Silicon
P. Silicon
P. Silicon
M. Silicon
P. Silicon
M. Silicon
P. Silicon
P. Silicon
icon
M. Silicon
P. Silicon

BEFORE CHECKING ANYTHING ELSE, CHECK ALL SUPPLY VOLTAGES. DON'T BE MISLED BY THE FACT THAT CIRCUITS WITH THE SAME SUPPLY ARE WORKING. SOME CIRCUITS ARE MORE SENSITIVE TO CHANGES IN SUPPLY VOLTAGE THAN OTHERS.

If the picture appears on the screen but the display is incorrect, the problem is probably in the Microprocessor, latches, drivers, or the LED display unit.

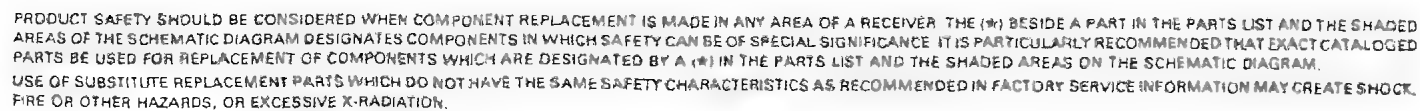
Check the IF per Main Chassis troubleshooting chart. IF OK, PROCEED TO THE KMP91 ELECTRONIC TUNING TROUBLESHOOTING CHART FOR POSSIBLE SOLUTION TO THE PROBLEM.

Measure tuning voltage at RL244, Pin 1, while entering the following Channels, CH.1=28V, 6=20V, 13=23V, 33=6.5V and 82=27V. The presence of these voltages indicate that the PLL (IC50) output is working. Enter in Channel 1 (28V at RL244, Pin 1) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station can't be tuned in, the tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC40) or the PLL (IC50).

FACE (TB-28)

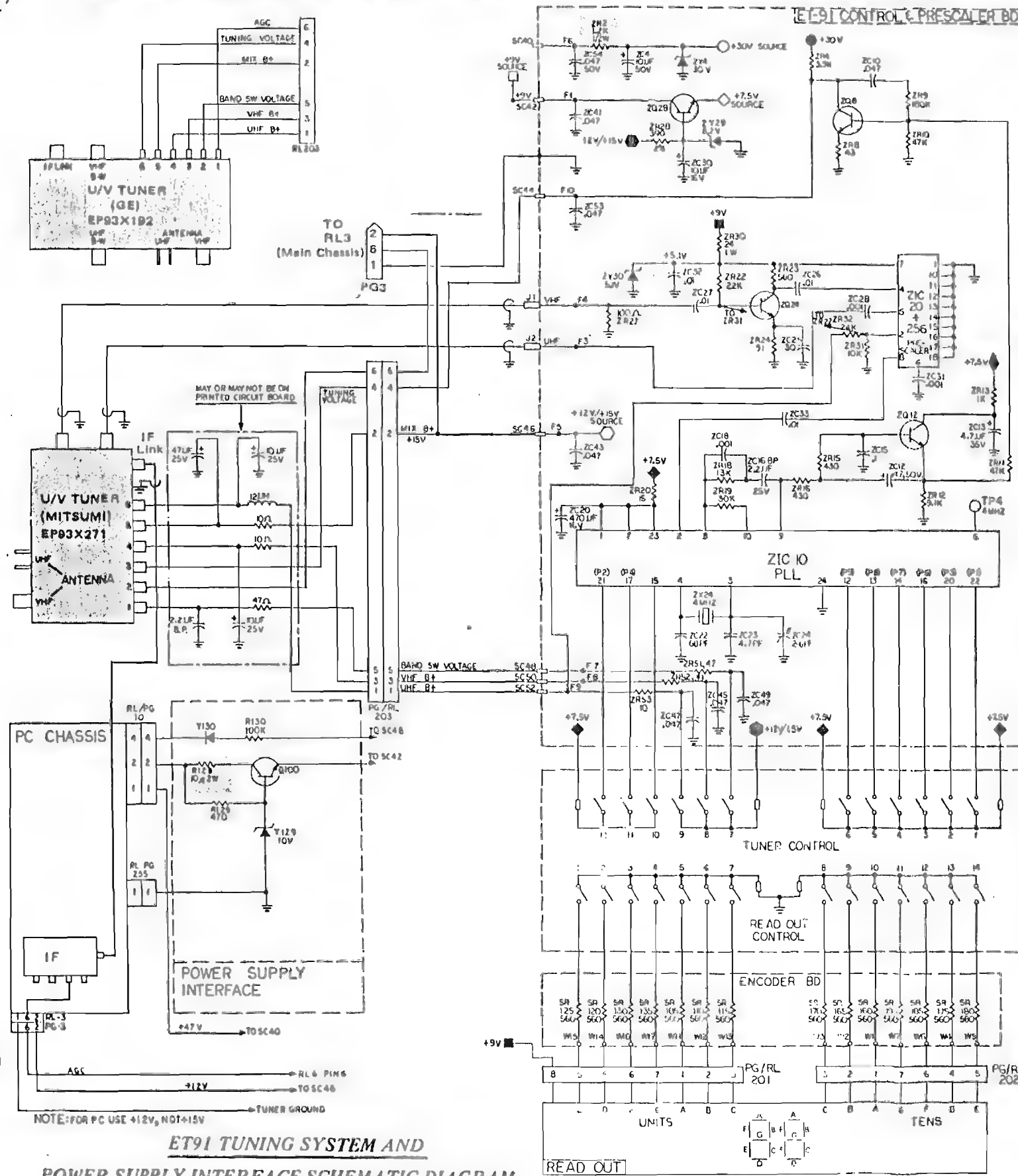
10 ohm, 5%, 2W, Metal Oxide
470 ohm, 5%, 1/4W, Carbon
100K ohm 5%, 1/4W, Carbon

Zener
Rectifier

ET91 ELECTRONIC TUNING SYSTEM W/PRESCALER TUNER CONTROL SWITCH

ET91 SWITCH TRUTH TABLES

O = OPEN 1 = CLOSED



ET91 TUNING SYSTEM AND
POWER SUPPLY INTERFACE SCHEMATIC DIAGRAM

CHANNEL	
TUNER CONTROL POSITION	READ OUT CONTROL POSITION
12 11 10 9 8 7 6 5 4 3 2 1	14 13 12 11 10 9 8 7 6 5 4 3 2 1
1 0 1 0 1 0 0 0 0 1 0 0	2 0 0 0 0 0 0 0 1 1 0 1 1
0 0 1 0 1 0 0 0 0 1 1 1	3 0 0 0 0 0 0 0 1 1 1 0 1 0
0 1 1 0 1 0 0 0 0 1 0 0	4 0 0 0 0 0 0 0 1 1 0 1 0 0
0 1 1 0 1 0 0 0 0 1 1 1	5 0 0 0 0 0 0 0 1 0 1 1 1 0
0 0 0 0 1 0 0 0 1 0 0 0	6 0 0 0 0 0 0 0 1 0 1 1 1 1
1 1 1 0 1 0 0 0 1 0 1 0	7 0 0 0 0 0 0 0 1 1 0 0 0 0
0 0 1 0 1 0 0 0 1 1 0 1	8 0 0 0 0 0 0 0 1 1 1 1 1 1
0 0 1 0 1 0 0 0 1 1 1 0	9 0 0 0 0 0 0 0 1 1 1 1 1 0
1 0 1 0 1 0 0 0 1 1 1 1	10 0 0 0 0 0 0 0 1 1 1 1 0 1 1
1 1 1 0 1 0 0 0 1 1 0 0	11 0 0 0 0 0 0 0 1 1 0 0 0 0 0
0 1 1 0 1 0 0 0 1 1 1 1	12 0 0 0 0 0 0 0 1 1 0 1 0 1 1
0 0 0 0 1 0 0 0 1 1 0 0	13 0 0 0 0 0 0 0 1 1 0 1 0 1 0
1 0 0 0 1 0 0 0 1 1 0 1	14 0 0 0 0 0 0 0 1 1 0 1 0 1 0
0 0 0 0 1 0 0 0 1 1 0 0	15 0 0 0 0 0 0 0 1 1 0 1 0 1 0
0 1 0 0 1 0 0 0 1 1 0 0	16 0 0 0 0 0 0 0 1 1 0 1 0 1 1
1 1 0 0 1 0 0 0 1 1 0 0	17 0 0 0 0 0 0 0 1 1 0 0 0 0 0
0 0 0 0 1 0 0 0 1 1 0 1	18 0 0 0 0 0 0 0 1 1 1 1 1 1 1
0 0 0 0 1 0 0 0 1 1 0 0	19 0 0 0 0 0 0 0 1 1 1 1 1 1 1
0 0 0 0 1 0 0 0 1 1 0 1	20 1 1 0 1 1 0 1 1 0 1 1 0 1 1
1 0 0 0 1 0 0 0 1 1 0 1	21 1 1 0 1 1 0 1 1 0 0 0 0 0 0
1 0 0 0 1 0 0 0 1 1 0 0	22 1 1 0 1 1 0 1 1 0 1 1 1 1 1
0 1 0 0 1 0 0 0 1 1 0 1	23 1 1 0 1 1 0 1 1 0 1 1 0 1 0
0 0 1 0 1 0 0 0 1 1 0 0	24 1 1 0 1 1 0 1 1 0 1 1 0 1 0
1 0 1 0 1 0 0 0 1 1 0 0	25 1 1 0 1 1 0 1 1 0 1 1 0 1 0
1 0 1 0 1 0 0 0 1 1 0 1	26 1 1 0 1 1 0 1 1 0 1 1 1 1 1
0 1 1 0 1 0 0 0 1 1 0 0	27 1 1 0 1 1 0 1 1 0 1 1 0 0 0
0 1 1 0 1 0 0 0 1 1 0 1	28 1 1 0 1 1 0 1 1 0 1 1 1 1 1
1 1 1 0 1 0 0 0 1 1 0 1	29 1 1 0 1 1 0 1 1 0 1 1 1 1 0
1 0 1 0 1 0 0 0 1 1 0 0	30 0 1 0 1 1 1 1 1 0 1 1 1 1 1
0 0 1 0 1 0 0 0 1 1 0 1	31 0 1 0 1 1 1 1 1 0 0 0 0 0 0
1 1 1 0 1 0 0 0 1 1 0 0	32 0 1 0 1 1 1 1 1 0 1 1 0 1 1
1 1 1 0 1 0 0 0 1 1 0 1	33 0 1 0 1 1 1 1 1 0 1 1 0 1 0
1 1 1 0 1 0 0 0 1 1 0 0	34 0 1 0 1 1 1 1 1 0 1 1 0 1 0
0 0 0 0 1 0 0 0 1 1 0 0	35 0 1 0 1 1 1 1 1 0 1 1 0 1 0
0 0 0 0 1 0 0 0 1 1 0 1	36 0 1 0 1 1 1 1 1 0 1 1 1 1 1
1 0 0 0 1 0 0 0 1 1 0 1	37 0 1 0 1 1 1 1 1 0 0 0 0 0 0
1 1 0 0 1 0 0 0 1 1 0 0	38 0 1 0 1 1 1 1 1 0 0 0 0 0 0
0 1 0 0 1 0 0 0 1 1 0 1	39 0 1 0 1 1 1 1 1 0 0 0 0 0 0
0 0 0 0 1 0 0 0 1 1 0 0	40 0 0 1 0 1 1 1 1 0 1 1 1 1 1
1 0 0 0 1 0 0 0 1 1 0 1	41 0 0 1 0 1 1 1 1 0 0 0 0 0 0
1 0 0 0 1 0 0 0 1 1 0 0	42 0 0 1 0 1 1 1 1 0 1 1 0 1 1
0 1 0 0 1 0 0 0 1 1 0 1	43 0 0 1 0 1 1 1 1 0 1 1 0 1 0
0 1 0 0 1 0 0 0 1 1 0 0	44 0 0 1 0 1 1 1 1 0 1 1 0 1 0
1 1 0 0 1 0 0 0 1 1 0 1	45 0 0 1 0 1 1 1 1 0 1 1 0 1 0
1 0 1 0 1 0 0 0 1 1 0 0	46 0 0 1 0 1 1 1 1 0 1 1 1 1 1
0 0 1 0 1 0 0 0 1 1 0 1	47 0 0 1 0 1 1 1 1 0 0 0 0 0 0

CHANNEL	
TUNER CONTROL POSITION	READ OUT CONTROL POSITION
12 11 10 9 8 7 6 5 4 3 2 1	14 13 12 11 10 9 8 7 6 5 4 3 2 1
0 1 1 0 1 0 1 0 1 0 0 0	48 0 0 1 1 0 1 1 1 1 1 1 1 1 1
1 1 1 0 1 0 1 0 1 0 0 1	49 0 0 1 1 0 1 1 1 1 1 1 1 1 0
1 1 1 0 1 0 1 0 1 0 1 0	50 0 0 1 1 0 1 1 1 1 1 1 1 1 1
0 0 1 0 1 0 1 0 1 0 1 1	51 0 0 1 1 0 1 1 1 1 0 0 0 0 0
0 0 1 0 1 0 1 0 1 1 1 0	52 0 0 1 1 0 1 1 0 1 1 1 0 1 1
1 0 1 0 1 0 1 0 1 1 1 1	53 0 0 1 1 0 1 1 0 1 1 1 0 1 0
0 0 1 0 1 0 1 0 1 1 1 0	54 0 0 1 1 0 1 1 0 1 1 1 0 1 0
0 0 1 0 1 0 1 0 1 1 1 1	55 0 0 1 1 0 1 1 0 1 1 1 0 1 0
0 0 0 0 1 0 1 0 1 1 1 0	56 0 0 1 1 0 1 1 0 1 1 1 0 1 1
1 0 0 0 1 0 1 0 1 1 1 1	57 0 0 1 1 0 1 1 0 1 1 1 0 1 1
1 0 0 0 1 0 1 0 1 1 1 0	58 0 0 1 1 0 1 1 0 1 1 1 0 1 1
0 1 0 0 1 0 1 0 1 1 1 1	59 0 0 1 1 0 1 1 0 1 1 1 0 1 1
0 1 0 0 1 0 1 0 1 1 1 0	60 1 1 1 1 0 1 1 0 1 1 1 0 1 1
1 1 0 0 1 0 1 0 1 1 1 1	61 1 1 1 1 0 1 1 0 1 1 1 0 1 1
1 0 0 0 1 0 1 0 1 1 1 0	62 1 1 1 1 0 1 1 0 1 1 1 0 1 1
0 0 0 0 1 0 1 0 1 1 1 1	63 1 1 1 1 0 1 1 0 1 1 1 0 1 1
0 1 0 0 1 0 1 0 1 1 1 0	64 1 1 1 1 0 1 1 0 1 1 1 0 1 1
1 1 0 0 1 0 1 0 1 1 1 1	65 1 1 1 1 0 1 1 0 1 1 1 0 1 1
1 1 0 0 1 0 1 0 1 1 1 0	66 1 1 1 1 0 1 1 0 1 1 1 0 1 1
0 0 1 0 1 0 1 0 1 1 1 1	67 1 1 1 1 0 1 1 0 1 1 1 0 1 1
0 0 1 0 1 0 1 0 1 1 1 0	68 1 1 1 1 0 1 1 0 1 1 1 0 1 1
1 0 1 0 1 0 1 0 1 1 1 1	69 1 1 1 1 0 1 1 0 1 1 1 0 1 1
0 1 0 0 1 0 1 0 1 1 1 0	70 0 0 0 0 1 1 1 1 1 0 1 1 1 1
1 0 1 0 1 0 1 0 1 1 1 1	71 0 0 0 0 1 1 1 1 1 0 1 1 1 1
0 1 1 0 1 0 1 0 1 1 1 0	72 0 0 0 0 1 1 1 1 1 0 1 1 1 1
1 0 1 0 1 0 1 0 1 1 1 1	73 0 0 0 0 1 1 1 1 1 0 1 1 1 1
0 1 1 0 1 0 1 0 1 1 1 0	74 0 0 0 0 1 1 1 1 1 0 1 1 1 1
1 0 1 0 1 0 1 0 1 1 1 1	75 0 0 0 0 1 1 1 1 1 0 1 1 1 1
0 1 1 0 1 0 1 0 1 1 1 0	76 0 0 0 0 1 1 1 1 1 0 1 1 1 1
1 0 1 0 1 0 1 0 1 1 1 1	77 0 0 0 0 1 1 1 1 1 0 1 1 1 1
0 1 1 0 1 0 1 0 1 1 1 0	78 0 0 0 0 1 1 1 1 1 0 1 1 1 1
1 0 1 0 1 0 1 0 1 1 1 1	79 0 0 0 0 1 1 1 1 1 0 1 1 1 1
0 1 1 0 1 0 1 0 1 1 1 0	80 1 1 1 1 1 1 1 1 1 0 1 1 1 1
1 0 1 0 1 0 1 0 1 1 1 1	81 1 1 1 1 1 1 1 1 1 0 1 1 1 1
0 1 1 0 1 0 1 0 1 1 1 0	82 1 1 1 1 1 1 1 1 1 0 1 1 1 1
1 0 1 0 1 0 1 0 1 1 1 1	83 1 1 1 1 1 1 1 1 1 0 1 1 1 1
0 1 1 0 1 0 1 0 1 1 1 0	84 1 1 1 1 1 1 1 1 1 0 1 1 1 1
1 0 1 0 1 0 1 0 1 1 1 1	85 1 1 1 1 1 1 1 1 1 0 1 1 1 1
0 1 1 0 1 0 1 0 1 1 1 0	86 1 1 1 1 1 1 1 1 1 0 1 1 1 1
1 0 1 0 1 0 1 0 1 1 1 1	87 1 1 1 1 1 1 1 1 1 0 1 1 1 1
0 1 1 0 1 0 1 0 1 1 1 0	88 1 1 1 1 1 1 1 1 1 0 1 1 1 1
1 0 1 0 1 0 1 0 1 1 1 1	89 1 1 1 1 1 1 1 1 1 0 1 1 1 1
0 1 1 0 1 0 1 0 1 1 1 0	90 0 1 1 1 1 1 1 1 1 0 1 1 1 1
1 0 1 0 1 0 1 0 1 1 1 1	91 0 1 1 1 1 1 1 1 1 0 1 1 1 1
0 1 1 0 1 0 1 0 1 1 1 0	92 0 1 1 1 1 1 1 1 1 0 1 1 1 1

SYMPTOM
NO VIDEO, SNO
MISSING CHANN
EIC

* Troubles
main cha

SYMPTOM
CHANNEL NUMB
WILL NOT LIGHT
ARE MISSING

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (A) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (A) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

ET91 SWITCH TRUTH TABLES

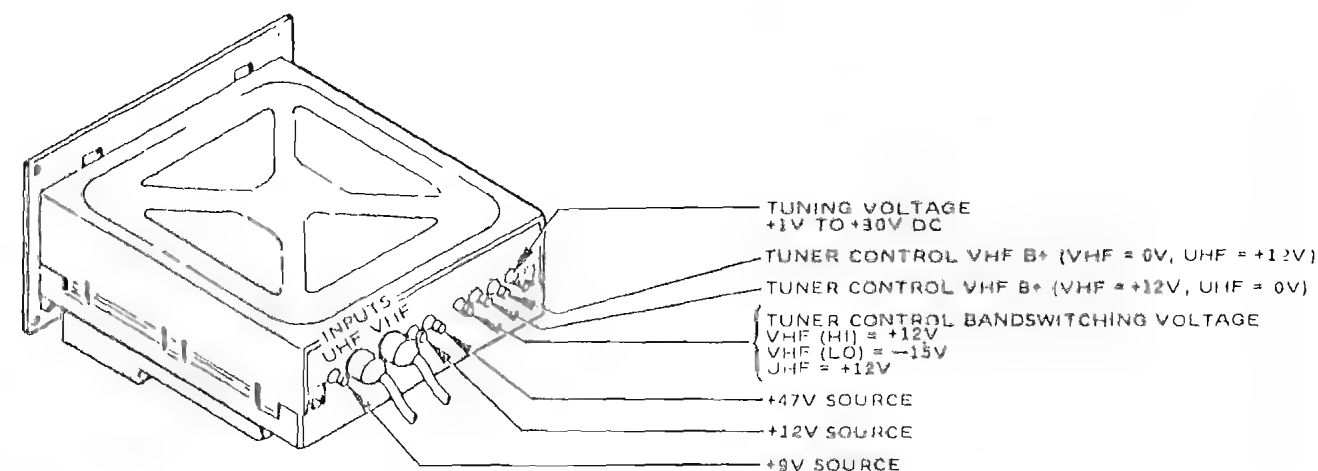
0 = OPEN 1 = CLOSED

CHANNEL	
TUNER CONTROL POSITION	READ OUT CONTROL POSITION
12110987654321	1413121110987654321
101010000100	2 0000000011011
001010000111	3 00000000111010
011010000100	4 00000000101100
011010000111	5 00000000101110
000010001000	6 00000000101111
111010001010	7 00000000110000
001010001101	8 00000000111111
001010001110	9 00000000111110
101010001111	10 00000000111011
111010001110	11 00000000110000
011010001111	12 00000000101101
000010010000	13 00000000111010
100101000000	14 00000000101100
000101000011	15 00000000101110
010101000000	16 00000000110111
110101000001	17 00000000110000
110101000010	18 00000000111111
000101000101	19 00000000111110
000101000110	20 110110110111
100101000111	21 110110110000
110101000100	22 110110110101
010101000111	23 1101101101010
001101000000	24 11011011010100
101101000001	25 11011011011110
101101000010	26 11011011011111
011101000001	27 11011011010000
011101000010	28 11011011011111
111101000011	29 11011011011110
101101000100	30 01011111011111
001101000111	31 01011111000000
011101000100	32 01011111011011
111101000101	33 01011111011010
111101000110	34 01011111011010
000101010001	35 01011111011110
000101010010	36 01011111011111
100101010011	37 01011111000000
110101010000	38 01011111011111
010101010011	39 01011111011110
000101010100	40 00110111110111
100101010101	41 00110111100000
100101010110	42 00110111011011
010101010111	43 00110111011010
010101010110	44 00110111011010
110101010111	45 00110111011110
101101010100	46 00110111011111
001101010111	47 00110111000000

CHANNEL	
TUNER CONTROL POSITION	READ OUT CONTROL POSITION
12110987654321	1413121110987654321
011101101000	48 00110111111111
111101101001	49 00110111111110
111101101010	50 01111011111011
001101101011	51 01111011100000
001101101110	52 01111010111011
101101101111	53 01111011111010
111101101100	54 01111011101100
011101101111	55 01111011101110
000101110000	56 01111011101111
100101110001	57 01111011110000
100101110010	58 01111011111111
010101110001	59 01111011111110
010101110010	60 11111011110111
110101110011	61 11111011100000
100101110100	62 11111010111011
000101110111	63 11111011111010
010101110100	64 11111011101100
110101110101	65 11111011101110
110101110110	66 11111011101111
001101110001	67 11111011110000
001101110010	68 11111011111111
101101110011	69 11111011111110
111101110000	70 00001111101111
011101110011	71 00001111100000
001101110100	72 00001111101111
101101110101	73 00001111110110
101101110110	74 00001111101100
011101110101	75 00001111101110
011101110110	76 00001111101111
111101110111	77 00001111100000
100101111000	78 00001111111111
000101111011	79 00001111111110
110101111001	80 11111111101111
110101111010	81 11111111100000
110101111011	82 11111111101101
000101111101	83 11111111101100
100011111010	84 11111111100101
100011111011	85 11111111101101
010011111010	86 11111111111011
010011111011	87 11111111100001
110011111011	88 11111111111111
101011111000	89 11111111101111
001011111011	90 01111111110111
011011111000	91 01111111100001
110111111001	92 01111111101110

ET91 TUNING SYSTEM TROUBLESHOOTING CHART

SYMPTOM	PROBABLE CAUSE	TROUBLESHOOTING PROCEDURE
NO VIDEO, SNOW, MISSING CHANNELS, ETC	<p>MOST LIKELY</p> <p>Loss of a B+ supply to the tuning system</p> <p>IC10 located in the TUNER CONTROL AND SELECTOR SWITCH ASM. MODULE</p> <p>TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE</p> <p>UHF/VHF TUNER</p> <p>LEAST LIKELY</p>	<p>1 Measure B+ voltages to the tuning system. If the voltages are not correct go to the main chassis service information sheet and continue.</p> <p>2 If B+ voltages are correct, measure the tuning and tuner control voltage from the TUNER CONTROL ASSEMBLY to the TUNER. If the voltages are all correct the TUNER should be suspected next.</p> <p>3 If the tuning voltage does not change when channels are selected IC10 is most likely at fault. If tuner control voltages are not correct the TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE is the most likely suspect.</p>
* Troubleshoot the Power Supply Interface on the PC → Chassis before going to the main chassis. The interface circuit modifies the main chassis B+ voltages for use by the ET91 Electronic Tuning System.		
SYMPTOM	PROBABLE CAUSE	TROUBLESHOOTING PROCEDURE
CHANNEL NUMBER INDICATOR WILL NOT LIGHT—OR SEGMENTS ARE MISSING	<p>MOST LIKELY</p> <p>CHANNEL NUMBER INDICATOR</p> <p>TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE</p> <p>LEAST LIKELY</p>	<p>1 Turn the channel selector to differently numbered channels — observe if all segments of the readout will light. EXAMPLE: An "8 digit" should light all seven segments of one side of the display. If the "8" digit can be made to appear on each of the dual readouts, then the TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE is defective.</p> <p>2 If one or more segments refuse to light, then compare voltage and/or resistance readings of lighted segment to those of the missing ones. Comparative readings should identify either the CHANNEL NUMBER INDICATOR or TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY MODULE.</p>

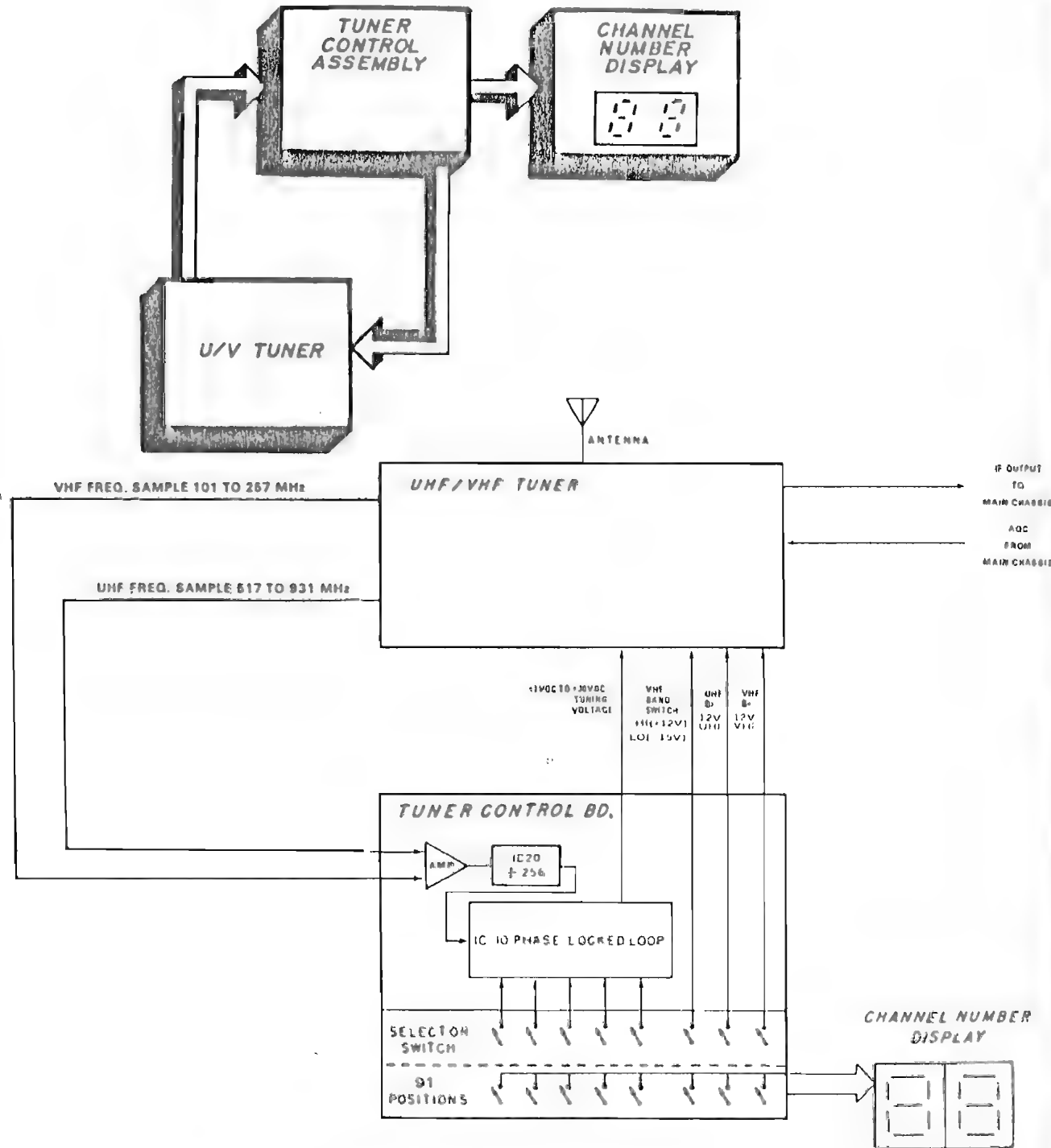


ET91 TUNER CONTROL VOLTAGE CHECK POINTS

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (*) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGUED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (*) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

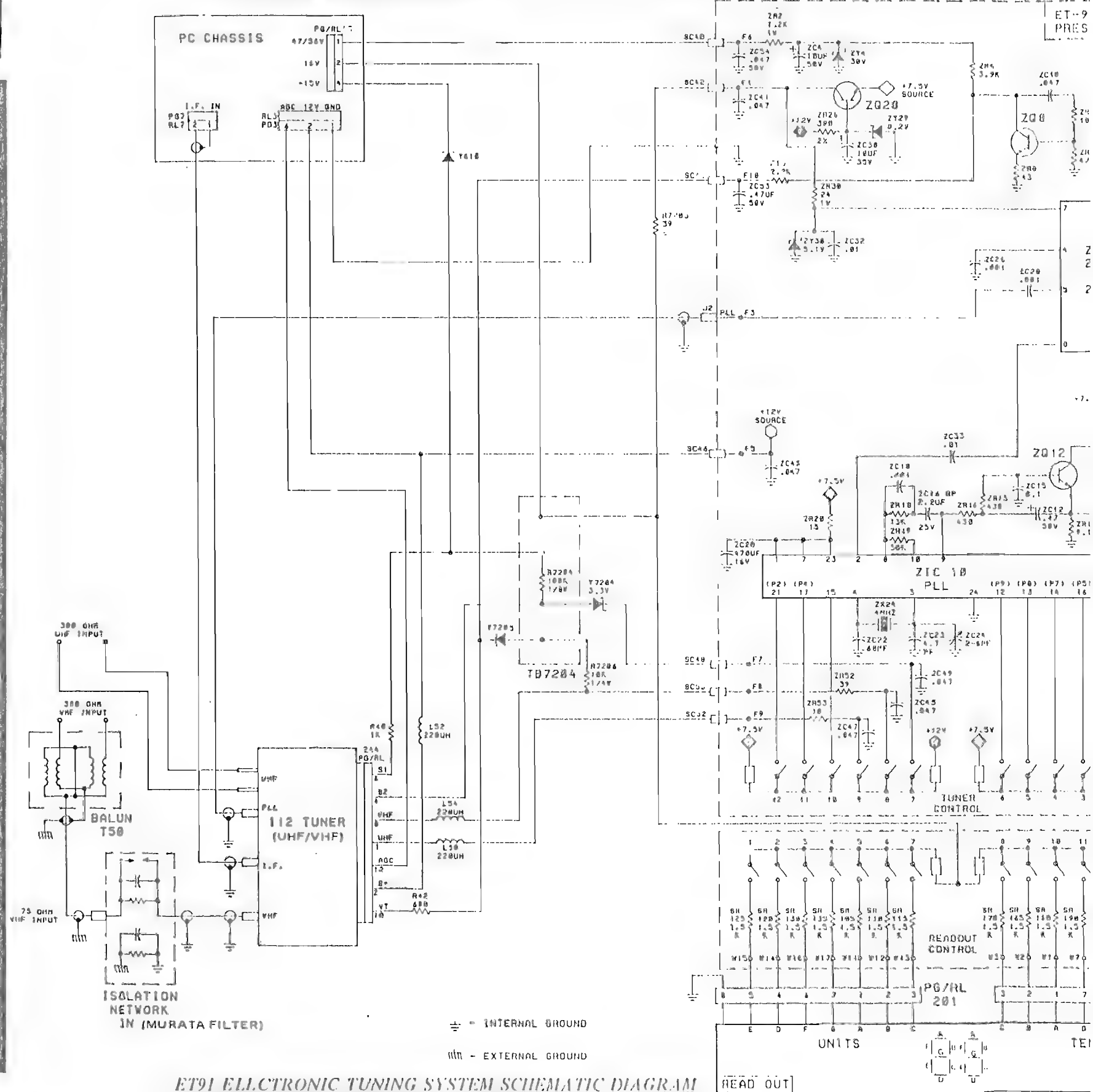
ET91 ELECTRONIC TUNING SYSTEM W/PRESCALER TUNER CONTROL SWITCH

ET91 TUNING SYSTEM BLOCK DIAGRAMS



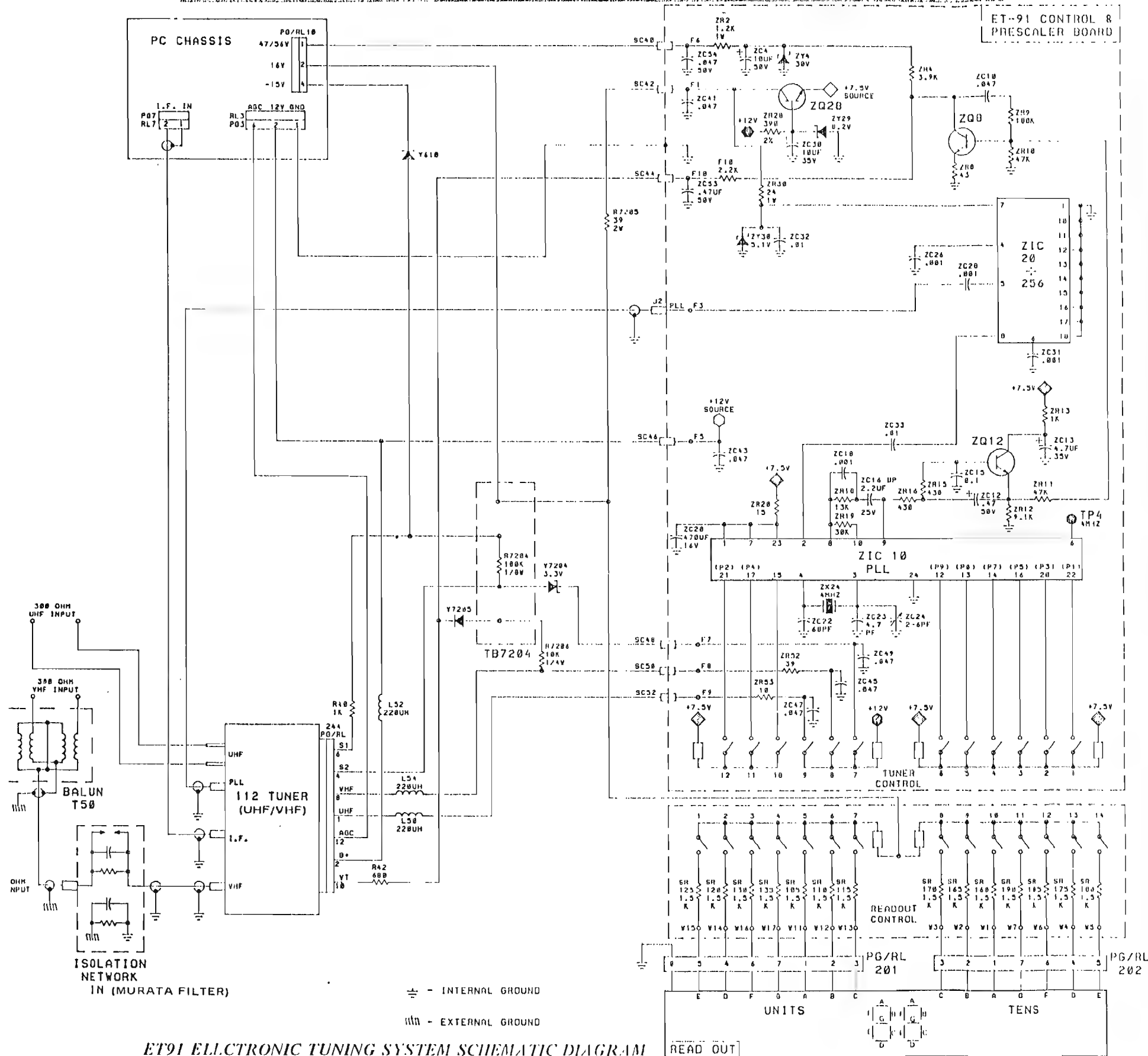
ET91 FUNCTIONAL BLOCK DIAGRAMS

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER THE (A) IN SIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT LRACI CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (A) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS OR EXCESSIVE RADIATION.



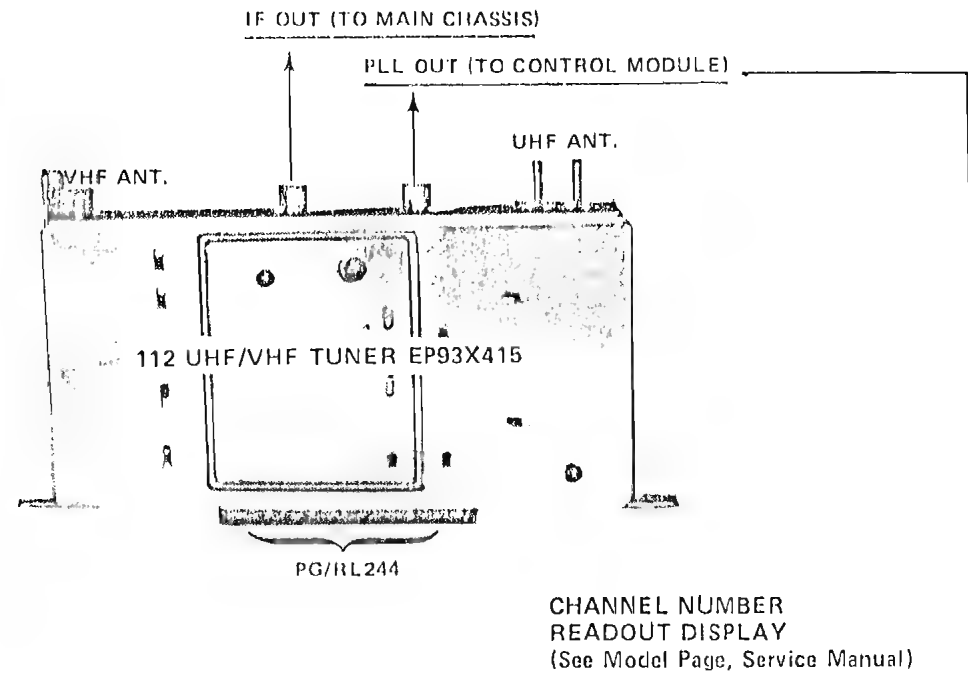
ET91 ELECTRONIC TUNING SYSTEM SCHEMATIC DIAGRAM

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (A) INSIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATES COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY (A) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARD OR EXCESSIVE X-RADIATION.



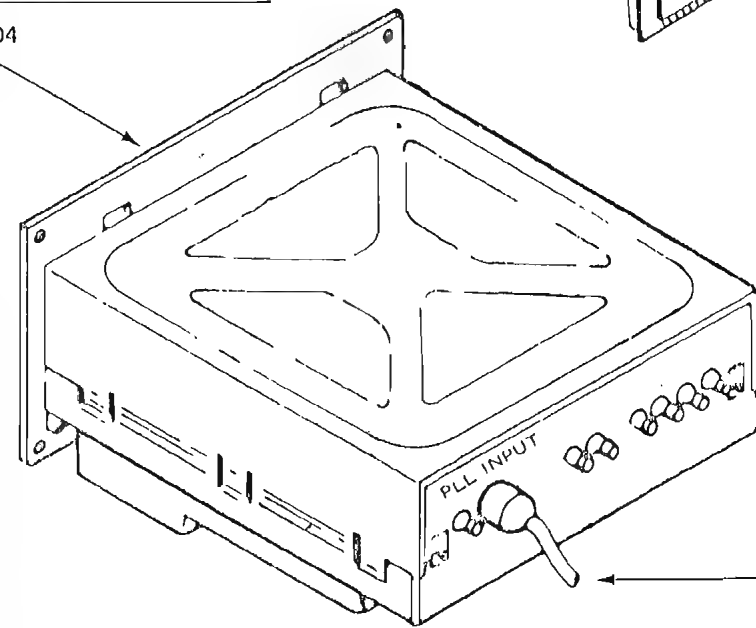
ET91 ELECTRONIC TUNING SYSTEM SCHEMATIC DIAGRAM

ET91 TUNING SYSTEM COMPONENT ASSEMBLIES



ET91 TUNER CONTROL AND SELECTOR SWITCH ASSEMBLY

EP93X404



ET91 TUNING SYSTEM COMPONENT ASSEMBLIES

ET91 ELECTRONIC TUNING SYSTEM REPLACEMENT PARTS LIST

ET91 CONTROL CIRCUIT BOARD ASM

EP93X404

PARTS NOT ON MODULES

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
SC40	EU23X4	1000pf, 500V, Feed Thru
SC42	EU23X4	1000pf, 500V, Feed Thru
SC44	EU23X4	1000pf, 500V, Feed Thru
SC46	EU23X4	1000pf, 500V, Feed Thru
SC48	EU23X4	1000pf, 500V, Feed Thru
SC50	EU23X4	1000pf, 500V, Feed Thru
SC52	EU23X4	1000pf, 500V, Feed Thru

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
R7204	EP14X105	100K ohm, 5%, 1/8W, Carbon
R7205	EP14X300	39 ohm, 5%, 2W, Metal Oxide
R7206	EP14X243	2.2K ohm, 5%, 1/4W, Carbon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y7204	EP16X29	Zener
Y7205	ES16X27	Silicon

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
	EP2X375	CASE-Casing, Top & Bottom, Plastic (Middle Section) W/Detent Springs & Balls
	EP2X374	CAM-Encoder, Plastic
RL3	EP8X71	CONNECTOR-6 Pos.
RL10	EP8X94	CONNECTOR-4 Pos.
	EP93X407	ET91 Control Circuit Board
	EP93X406	ET91 Resistor Circuit Board
SJ01	EP8X23	JACK-Phono
	EP2X374	SHAFT-Channel Select, Plastic
	EP39X147	TUNER CONTACTS-W/Push Rods & Ret.
	★EP93X415	UHF/VHF TUNER

ET91 CONTROL CIRCUIT BOARD

EP93X407

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C04	EP31X35	10uf, +100-10%, 50V, Elect.
C10	EP25X87	.047uf, 20%, 50V, Polyester
C12	ES31X53	.47uf, +150-10%, 50V, Elect.
C13	EP31X11	4.7uf, +150-10%, 35V, Elect.
C15	EP25X77	.1uf, 20%, 50V, Polyester
C16	EP31X39	2.2uf, 20%, 25V, Elect.
C18	EP18X197	1000pf, 10%, 50V, Cer. Disc
C20	EP31X31	470uf, +100-10%, 16V, Elect.
C22	EP18X191	68pf, 5%, 50V, Cer. Disc
C23	EP18X46	4.7pf, 10%, 50V, Cer. Disc
C24	EP30X3	2pf - 6pf, 50V, Trimmer
C26	EP18X220	1000pf, 10%, 1KV, Cer. Disc
C28	EP18X220	1000pf, 10%, 1KV, Cer. Disc
C30	EP31X35	10uf, +100-10%, 16V, Elect.
C31	EP18X144	1000pf, +80-20%, Cer. No Leads
C32	EP18X262	.01uf, 10%, 50V, Cer. Disc
C33	EP18X169	.01uf, 30%, 25V, Cer. Disc
C41	EP25X87	.047uf, 20%, 50V, Polyester
C43	EP25X87	.047uf, 20%, 50V, Polyester
C45	EP25X87	.047uf, 20%, 50V, Polyester
C47	EP25X87	.047uf, 20%, 50V, Polyester
C49	EP25X87	.047uf, 20%, 50V, Polyester
C53	ES31X53	.47uf, +150-10%, 50V, Elect.
C54	EP25X155	.047uf, 20%, 100V, Polyester

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
F7	ES14X51	47 ohm, 5%, 1/4W, Carbon
F8	Common	39 ohm, 5%, 1/4W, Carbon
F9	Common	10 ohm, 5%, 1/4W, Carbon
F10	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
★R02	Common	1.2K ohm, 5%, 1W, Carbon
R04	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
R08	Common	43 ohm, 5%, 1/8W, Carbon
R09	EP14X196	180K ohm, 5%, 1/8W, Carbon
R10	EP14X125	47K ohm, 5%, 1/8W, Carbon
R11	EP14X125	47K ohm, 5%, 1/8W, Carbon
R12	Common	9.1K ohm, 5%, 1/8W, Carbon
R13	ES14X71	1K ohm, 5%, 1/8W, Carbon
R15	EP14X289	430 ohm, 5%, 1/8W, Carbon
R16	EP14X289	430 ohm, 5%, 1/8W, Carbon
R18	EP14X288	13K ohm, 5%, 1/8W, Carbon
R19	EP14X288	30K ohm, 5%, 1/8W, Carbon
R20	EP14X188	15 ohm, 5%, 1/8W, Carbon
R27	EP14X187	100 ohm, 5%, 1/8W, Carbon
R28	ES14X57	390 ohm, 5%, 1/4W, Carbon
R30	EP14X281	24 ohm, 5%, 1W, Carbon

REF. NO.

X24

IC10

IC20

REF. NO.

Q08

Q12

Q28

REF. NO.

Y04

Y29

Y30

REF. NO.

SR105

SR110

SR115

SR120

SR125

SR130

SR135

SR160

SR165

SR170

SR175

SR180

SR185

SR190

REF. NO.

RL201

RI202

PRODUCT SAFETY SHO
AREAS OF THE SCHEMA
PARTS BE USED FOR RE
USE OF SUBSTITUTE RE
FIRE OR OTHER HAZAR

ET91 CONTROL CIRCUIT BOARD

EP93X407

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
C04	EP31X35	10uf, +100-10%, 50V, Elect.
C10	EP25X87	.047uf, 20%, 50V, Polyester
C12	ES31X53	.47uf, +150-10%, 50V, Elect.
C13	EP31X11	4.7uf, +150-10%, 35V, Elect.
C15	EP25X77	.1uf, 20%, 50V, Polyester
C16	EP31X39	2.2uf, 20%, 25V, Elect.
C18	EP18X197	1000pf, 10%, 50V, Cer. Disc
C20	EP31X31	470uf, +100-10%, 16V, Elect.
C22	EP18X191	68pf, 5%, 50V, Cer. Disc
C23	EP18X46	4.7pf, 10%, 50V, Cer. Disc
C24	EP30X3	2pf - 6pf, 50V, Trimmer
C26	EP18X220	1000pf, 10%, 1kV, Cer. Disc
C28	EP18X220	1000pf, 10%, 1kV, Cer. Disc
C30	EP31X35	10uf, +100-10%, 16V, Elect.
C31	EP18X144	1000pf, +80-20%, Cer. No Leads
C32	EP18X262	.01uf, 10%, 50V, Cer. Disc
C33	EP18X169	.01uf, 30%, 25V, Cer. Disc
C41	EP25X87	.047uf, 20%, 50V, Polyester
C43	EP25X87	.047uf, 20%, 50V, Polyester
C45	EP25X87	.047uf, 20%, 50V, Polyester
C47	EP25X87	.047uf, 20%, 50V, Polyester
C49	EP25X87	.047uf, 20%, 50V, Polyester
C53	ES31X53	.47uf, +150-10%, 50V, Elect.
C54	EP25X155	.047uf, 20%, 100V, Polyester

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
F7	ES14X51	47 ohm, 5%, 1/4W, Carbon
F8	Common	39 ohm, 5%, 1/4W, Carbon
F9	Common	10 ohm, 5%, 1/4W, Carbon
F10	EP14X243	2.2K ohm, 5%, 1/8W, Carbon
★R02	Common	1.2K ohm, 5%, 1W, Carbon
R04	EP14X252	3.9K ohm, 5%, 1/8W, Carbon
R08	Common	43 ohm, 5%, 1/8W, Carbon
R09	EP14X196	180K ohm, 5%, 1/8W, Carbon
R10	EP14X125	47K ohm, 5%, 1/8W, Carbon
R11	EP14X125	47K ohm, 5%, 1/8W, Carbon
R12	Common	9.1K ohm, 5%, 1/8W, Carbon
R13	ES14X71	1K ohm, 5%, 1/8W, Carbon
R15	EP14X289	430 ohm, 5%, 1/8W, Carbon
R16	EP14X289	430 ohm, 5%, 1/8W, Carbon
R18	EP14X288	13K ohm, 5%, 1/8W, Carbon
R19	EP14X288	30K ohm, 5%, 1/8W, Carbon
R20	EP14X188	15 ohm, 5%, 1/8W, Carbon
R27	EP14X187	100 ohm, 5%, 1/8W, Carbon
R28	ES14X57	390 ohm, 5%, 1/4W, Carbon
R30	EP14X281	24 ohm, 5%, 1W, Carbon

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
X24	EP41X68	CRYSTAL-Quartz
IC10	EP84X61	PLL/Freq. Syn.
IC20	EP84X113	Prescaler W/Preamp

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
Q08	EP15X89	NPN, Silicon
Q12	EP15X88	NPN, Silicon
Q28	EP15X25	NPN, Silicon

DIODES

REF. NO.	PART NO.	DESCRIPTION
Y04	EP16X32	Zener
Y29	EP16X146	Zener
Y30	EP16X19	Zener

ET91 RESISTOR CIRCUIT BOARD

EP93X406

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
SR105	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR110	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR115	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR120	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR125	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR130	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR135	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR160	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR165	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR170	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR175	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR180	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR185	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR190	ES14X62	1.5K ohm, 5%, 1/4W, Carbon

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL201	EP8X40	CONNECTOR-9 Pins
RI207	EP8X40	CONNECTOR-9 Pins

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**SUPPLEMENT
MINI-MANUAL
SERVICE INFORMATION
FOR TECHNICIAN
USE ONLY
ACCESSIBLE FROM INSIDE
TV SET ONLY**

NOTICE TO TECHNICIAN:
THIS MINI MANUAL IS CUSTOMER PROPERTY
PLEASE REPLACE IN SET WHEN SERVICING IS
COMPLETED

Product safety should be considered when component replacement is made in any area of a receiver. The (★) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (★) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

EP 88X58

2 WATT STEREO AMPLIFIER SCHEMATIC DIAGRAM

PC-J

STEREO AMPLIFIER CIRCUIT BOARD

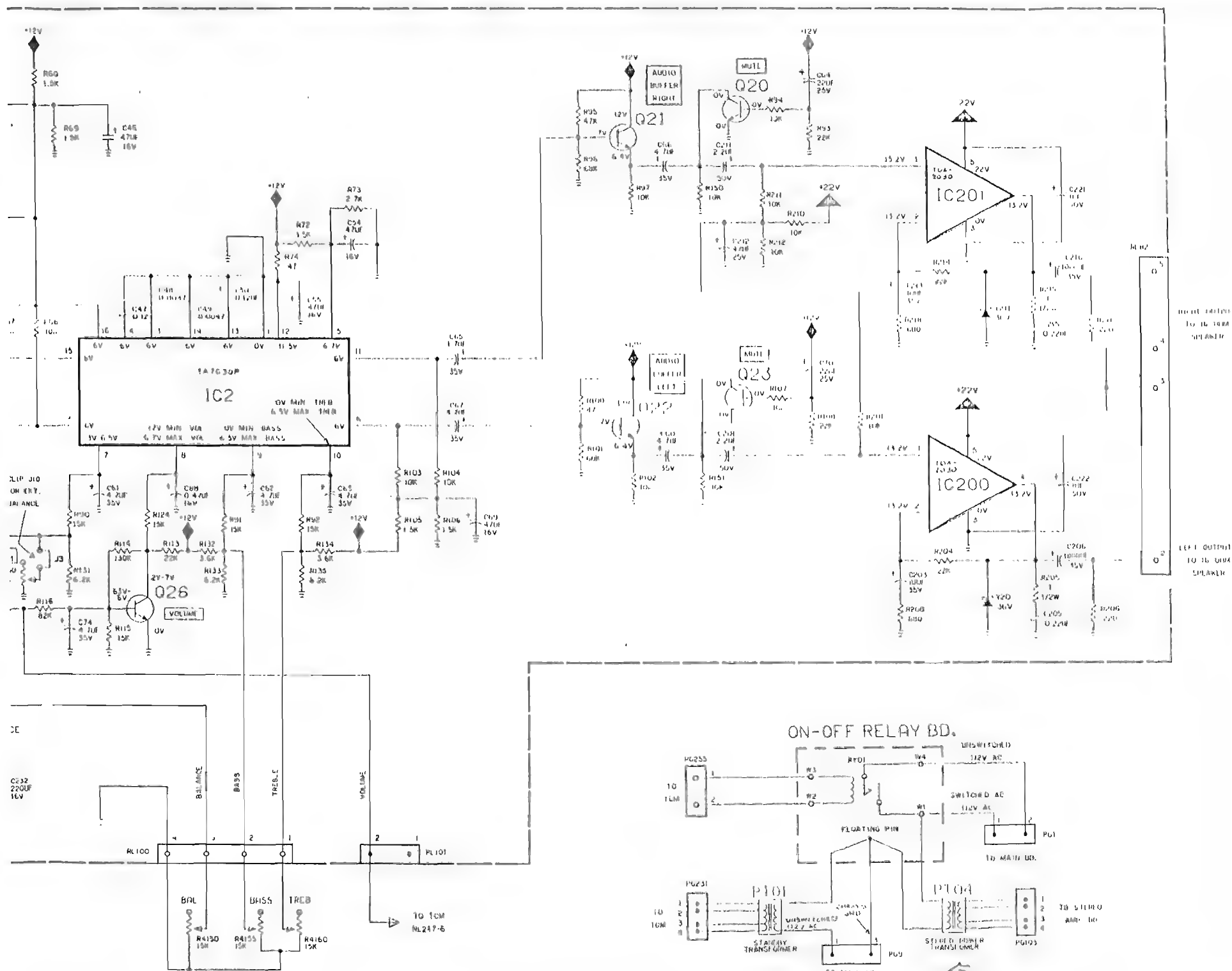
EP93X622

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
AC44	EP31X45	47 μ f, 20%, 25V, Elect.
AC45	EP31X45	47 μ f, 20%, 25V, Elect.
AC46	EP31X45	47 μ f, 20%, 25V, Elect.
AC47	EP25X168	.12 μ f, 10%, 50V, Polyester
AC48	EP25X165	4700pf, 10%, 50V, Polyester
AC49	EP25X165	4700pf, 10%, 50V, Polyester
AC50	EP25X168	.12 μ f, 10%, 50V, Polyester
AC54	EP31X45	47 μ f, 20%, 25V, Elect.
AC55	EP31X45	47 μ f, 20%, 25V, Elect.
AC60	EP31X170	4.7 μ f, 20%, 35V, Elect.
AC61	EP31X170	4.7 μ f, 20%, 35V, Elect.
AC62	EP31X170	4.7 μ f, 20%, 35V, Elect.
AC63	EP31X170	4.7 μ f, 20%, 35V, Elect.
AC64	EP31X172	22 μ f, 20%, 25V, Elect.
AC65	EP31X170	4.7 μ f, 20%, 35V, Elect.
AC66	EP31X170	4.7 μ f, 20%, 35V, Elect.
AC67	EP31X170	4.7 μ f, 20%, 35V, Elect.
AC69	EP31X45	47 μ f, 20%, 25V, Elect.
AC70	EP31X172	22 μ f, 20%, 25V, Elect.
AC74	EP31X170	4.7 μ f, 20%, 35V, Elect.
AC88	EP31X172	47 μ f, 20%, 50V, Elect.
AC201	EP31X173	2.2 μ f, 20%, 50V, Elect.
AC203	EP31X149	10 μ f, 20%, 35V, Elect.
AC205	EP25X95	.22 μ f, 10%, 50V, Polyester
AC206	EP31X182	1000 μ f, 20%, 35V, Elect.
AC211	EP31X173	2.2 μ f, 20%, 50V, Elect.
AC212	EP31X45	47 μ f, 20%, 25V, Elect.
AC213	EP31X149	10 μ f, 20%, 35V, Elect.
AC215	EP25X95	.22 μ f, 10%, 50V, Polyester
AC216	EP31X182	1000 μ f, 20%, 35V, Elect.
AC217	EP31X111	2200 μ f, 20%, 35V, Elect.
AC219	EP31X111	2200 μ f, 20%, 35V, Elect.
AC221	EP31X166	1 μ f, 20%, 50V, Elect.
AC222	EP31X166	1 μ f, 20%, 50V, Elect.
AC230	EP31X177	470 μ f, 20%, 35V, Elect.
AC231	EP25X95	.22 μ f, 10%, 50V, Polyester
AC232	EP31X188	220 μ f, 20%, 25V, Elect.

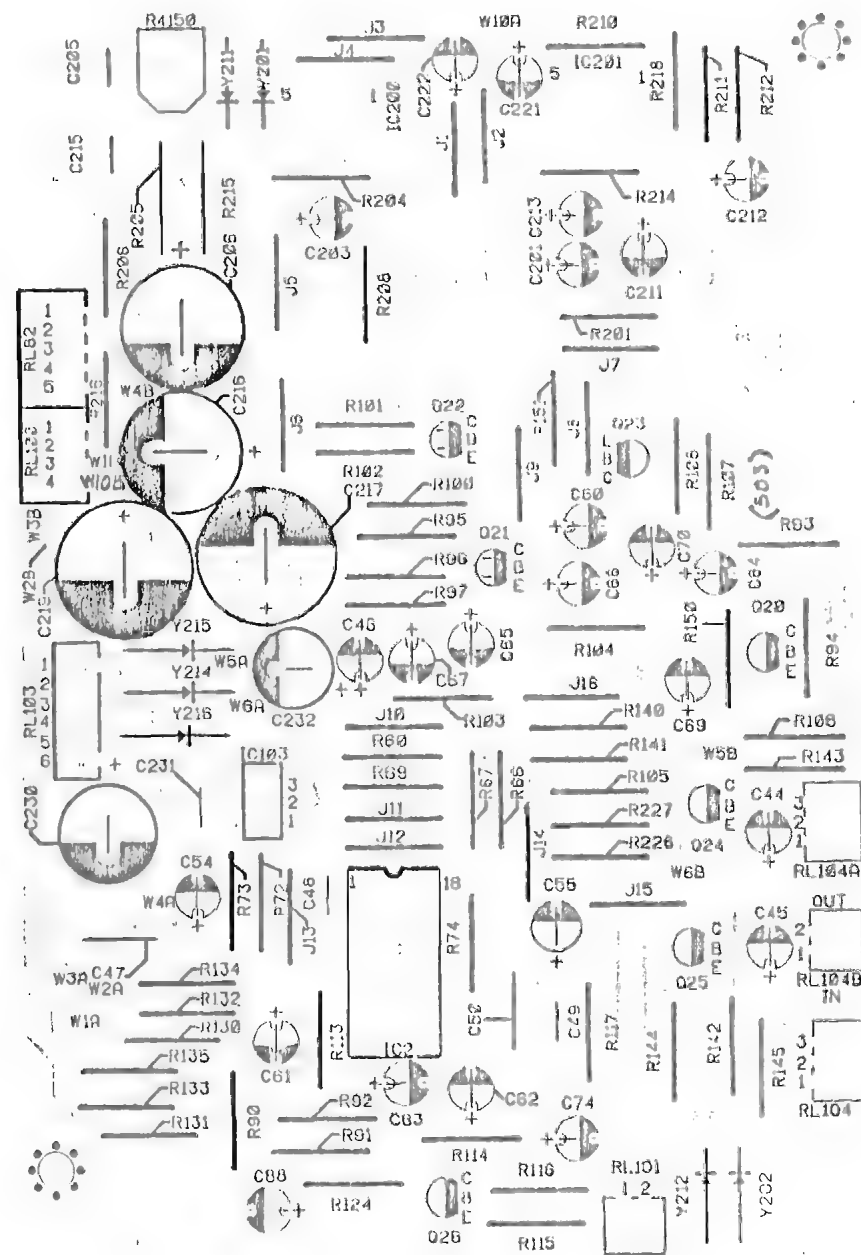
RESISTORS

REF. NO.	PART NO.	DESCRIPTION
AR60	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
AR66	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR67	EP14X103	10K ohm, 5%, 1/4W, Carbon
AR69	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
AR72	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
AR73	EP14X400	2.7K ohm, 5%, 1/4W, Carbon
AR74	ES14X51	47 ohm, 5%, 1/4W, Carbon
AR90	EP14X398	15K ohm, 5%, 1/4W, Carbon
AR91	EP14X398	15K ohm, 5%, 1/4W, Carbon
AR92	EP14X398	15K ohm, 5%, 1/4W, Carbon

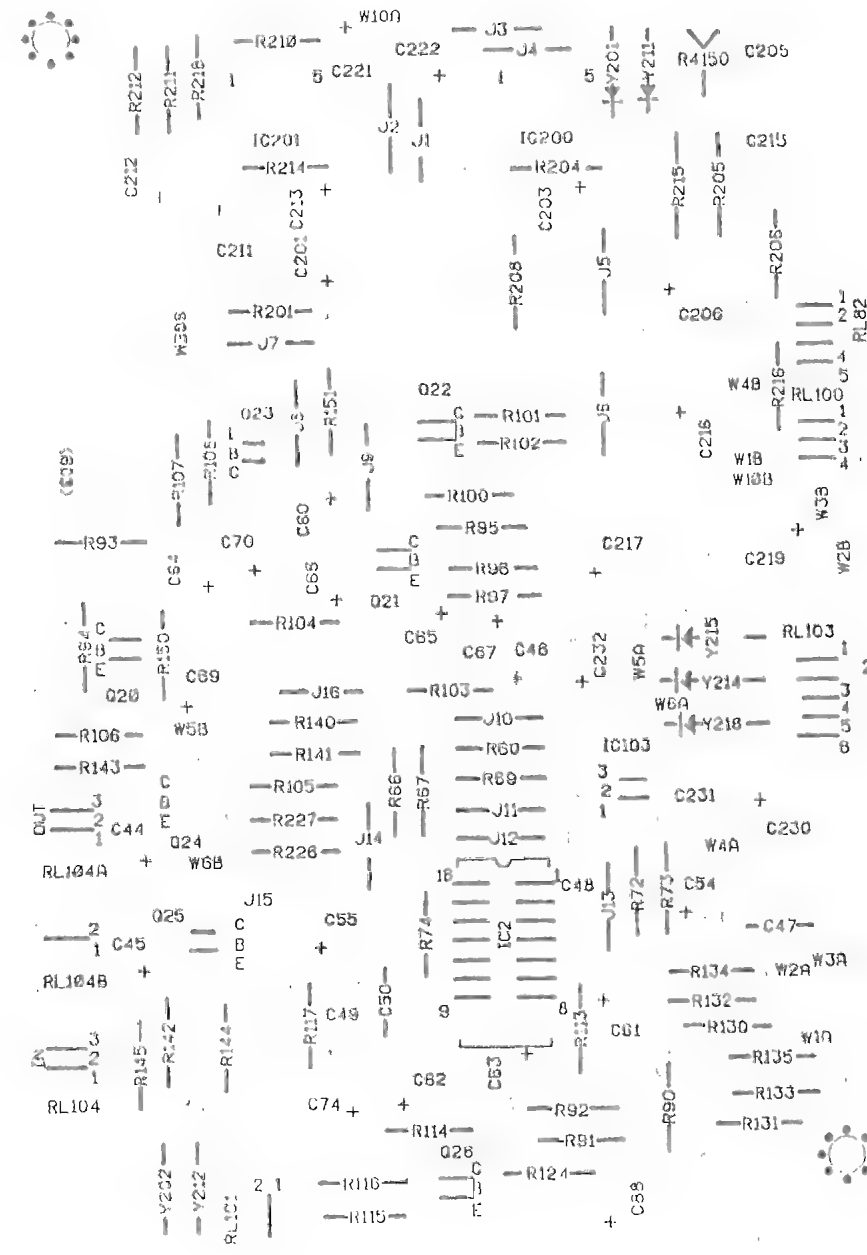


73E262659-1

2 WATT STEREO AMPLIFIER BOARD LAYOUT

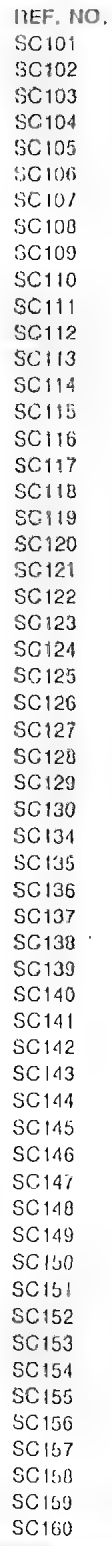


(COMPONENT SIDE)

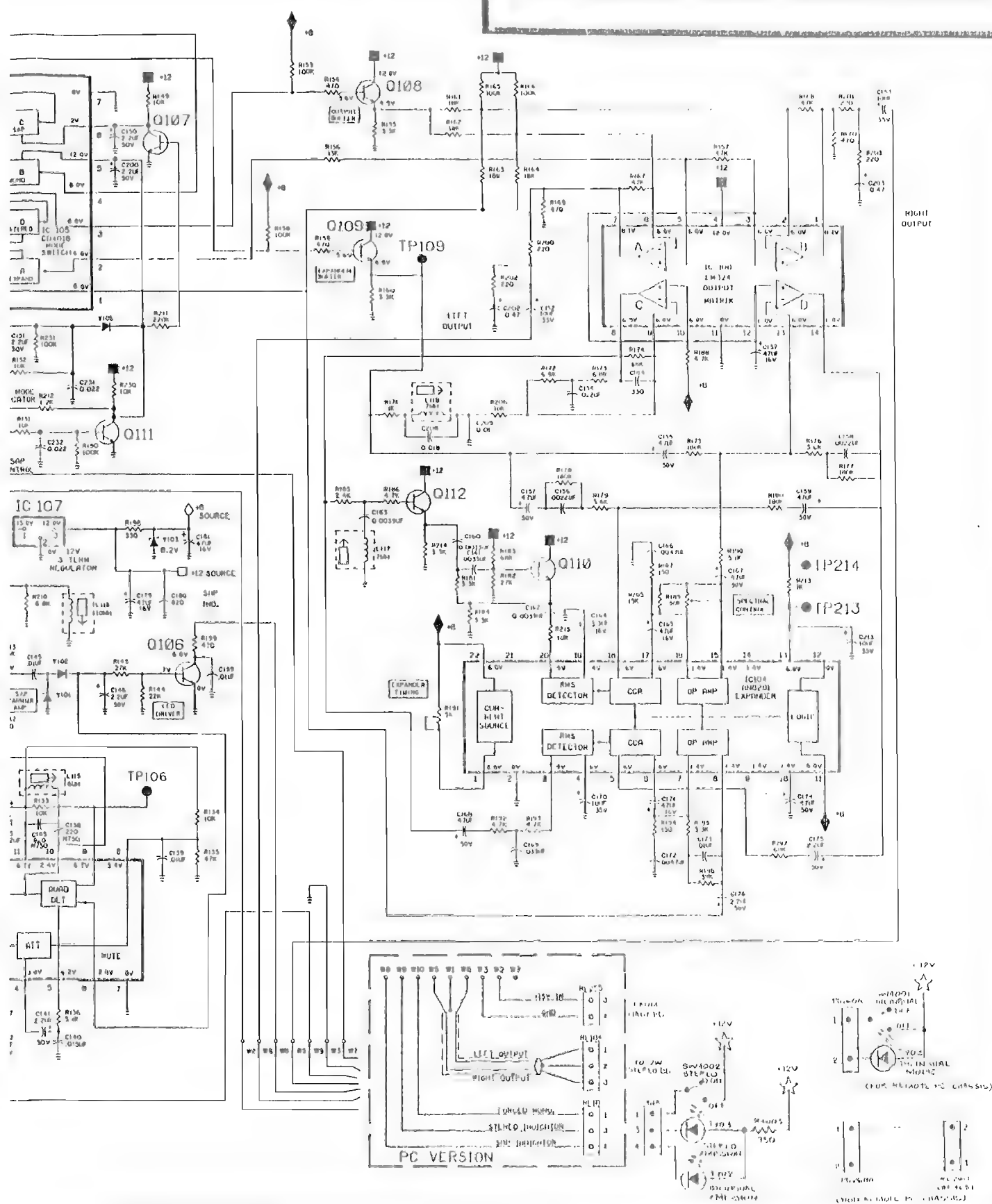


(COPPER SIDE)

STEREO/I



STEREO/BILINGUAL DECODER SCHEMATIC DIAGRAM



STEREO/BILINGUAL CIRCUIT BOARD

EP93X623

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION
SC101	EP18X180	820pf, 10%, 50V, HiK, Cer. Disc
SC102	EP18X180	820pf, 10%, 50V, HiK, Cer. Disc
SC103	EP18X180	820pf, 10%, 50V, HiK, Cer. Disc
SC104	EP18X180	820pf, 10%, 50V, HiK, Cer. Disc
SC105	EP18X216	4700pf, 30%, 25V, Cer. Disc
SC106	EP31X192	.33pf, 20%, 50V, Tantalum
SC107	EP18X180	820pf, 10%, 50V, HiK, Cer. Disc
SC108	EP18X113	150pf, 5%, 50V, NPO, Cer. Disc
SC109	EP18X191	68pf, 5%, 50V, Cer. Disc
SC110	EP25X87	.047pf, 10%, 50V, Polyester
SC111	EP25X183	.022pf, 10%, 50V, Polyester
SC112	EP18X180	33pf, 5%, 50V, Cer. Disc
SC113	EP18X169	.01pf, 30%, 25V, Cer. Disc
SC114	EP31X149	10pf, 20%, 35V, Elect.
SC115	EP25X183	.022pf, 10%, 50V, Polyester
SC116	EP25X183	.022pf, 10%, 50V, Polyester
SC117	EP25X183	.022pf, 10%, 50V, Polyester
SC118	EP18X169	.01pf, 30%, 25V, Cer. Disc
SC119	EP25X102	3300pf, 10%, 50V, Polyester
SC120	EP25X102	3300pf, 10%, 50V, Polyester
SC121	EP25X102	3300pf, 10%, 50V, Polyester
SC122	EP18X169	.01pf, 30%, 25V, Cer. Disc
SC123	EP18X169	.01pf, 30%, 25V, Cer. Disc
SC124	EP25X80	.015pf, 10%, 50V, Polyester
SC125	EP31X190	.27pf, 20%, 25V, Bi Polar, Elect.
SC126	EP25X102	3300pf, 10%, 50V, Polyester
SC127	EP31X190	.27pf, 20%, 25V, Bi Polar, Elect.
SC128	EP31X191	.47pf, 20%, 25V, Bi Polar, Elect.
SC129	EP18X204	470pf, 5%, 50V, N220, Cer. Disc
SC130	EP18X169	.01pf, 30%, 25V, Cer. Disc
SC131	EP31X130	.47pf, 20%, 50V, Elect.
SC132	EP25X183	.022pf, 10%, 50V, Polyester
SC133	EP31X197	15pf, 10%, 20V, Tantalum
SC134	EP31X45	.47pf, 20%, 16V, Elect.
SC135	EP18X124	220pf, 5%, 50V, N750, Cer. Disc
SC136	EP25X131	.01pf, 10%, 50V, Polyester
SC137	EP25X80	.015pf, 10%, 50V, Polyester
SC138	EP31X173	2.2pf, 20%, 50V, Elect.
SC139	EP31X149	10pf, 20%, 35V, Elect.
SC140	EP25X131	.01pf, 10%, 50V, Polyester
SC141	EP31X149	.01pf, 30%, 25V, Cer. Disc
SC142	EP31X149	.01pf, 30%, 25V, Cer. Disc
SC143	EP31X173	2.2pf, 20%, 50V, Elect.
SC144	EP31X173	2.2pf, 20%, 50V, Elect.
SC145	EP31X173	2.2pf, 20%, 50V, Elect.
SC146	EP31X173	2.2pf, 20%, 50V, Elect.
SC147	EP31X173	2.2pf, 20%, 50V, Elect.
SC148	EP31X173	2.2pf, 20%, 50V, Elect.
SC149	EP31X173	2.2pf, 20%, 50V, Elect.
SC150	EP31X173	2.2pf, 20%, 50V, Elect.
SC151	EP31X173	2.2pf, 20%, 50V, Elect.
SC152	EP31X149	10pf, 20%, 35V, Elect.
SC153	EP31X149	10pf, 20%, 35V, Elect.
SC154	EP25X183	.022pf, 10%, 50V, Polyester
SC155	EP31X138	.47pf, 20%, 50V, Elect.
SC156	EP25X164	2200pf, 10%, 50V, Polyester
SC157	EP31X138	.47pf, 20%, 50V, Elect.
SC158	EP25X164	2200pf, 10%, 50V, Polyester
SC159	EP31X138	.47pf, 20%, 50V, Elect.
SC160	EP25X102	3300pf, 10%, 50V, Polyester

RESISTORS

REF. NO.	PART NO.	DESCRIPTION
SR101	ES14X62	1.5K ohm, 5%, 1/4W, Carbon
SR102	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
SR103	ES14X56	33 ohm, 5%, 1/4W, Carbon
SR104	EP14X318	220 ohm, 5%, 1/4W, Carbon
SR105	ES14X57	390 ohm, 5%, 1/4W, Carbon
SR106	ES14X61	820 ohm, 5%, 1/4W, Carbon
SR107	ES14X61	820 ohm, 5%, 1/4W, Carbon
SR108	ES14X71	1K ohm, 5%, 1/4W, Carbon
SR109	ES14X71	1K ohm, 5%, 1/4W, Carbon
SR110	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR111	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR112	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR113	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR114	ES14X71	1K ohm, 5%, 1/4W, Carbon
SR115	EP14X361	1.8K ohm, 5%, 1/4W, Carbon
SR116	EP14X102	10K ohm, 5%, 1/4W, Carbon
SR117	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR118	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
SR119	EP14X447	39K ohm, 5%, 1/4W, Carbon
SR120	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR121	ES14X70	100 ohm, 5%, 1/4W, Carbon
SR122	EP14X431	1.3K ohm, 5%, 1/4W, Carbon
SR123	EP14X361	1.8K ohm, 5%, 1/4W, Carbon
SR124	EP14X418	5.1K ohm, 5%, 1/4W, Carbon
SR125	ES14X71	1K ohm, 5%, 1/4W, Carbon
SR126	EP14X104	22K ohm, 5%, 1/4W, Carbon
SR127	EP14X103	10K ohm, 5%, 1/4W, Carbon

SR131	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
SR132	EP14X428	82 ohm, 5%, 1/4W, Carbon
SR133	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR134	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR135	EP14X125	47K ohm, 5%, 1/4W, Carbon
SR136	EP14X418	5.1K ohm, 5%, 1/4W, Carbon
SR137	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR139	EP14X125	47K ohm, 5%, 1/4W, Carbon
SR140	EP14X97	270K ohm, 5%, 1/4W, Carbon
SR141	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR142	ES14X57	390 ohm, 5%, 1/4W, Carbon
SR143	EP14X379	5.6K ohm, 5%, 1/4W, Carbon
SR144	EP14X104	22K ohm, 5%, 1/4W, Carbon
SR145	EP14X380	27K ohm, 5%, 1/4W, Carbon
SR146	EP14X105	100K ohm, 5%, 1/4W, Carbon
SR147	EP14X105	100K ohm, 5%, 1/4W, Carbon
SR148	EP14X105	100K ohm, 5%, 1/4W, Carbon
SR149	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR150	EP14X105	100K ohm, 5%, 1/4W, Carbon
SR151	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR152	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR153	EP14X105	100K ohm, 5%, 1/4W, Carbon
SR154	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR155	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
SR156	EP14X464	13K ohm, 5%, 1/4W, Carbon
SR157	EP14X125	47K ohm, 5%, 1/4W, Carbon
SR158	EP14X105	100K ohm, 5%, 1/4W, Carbon
SR159	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR160	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
SR161	EP14X414	18K ohm, 5%, 1/4W, Carbon
SR162	EP14X414	18K ohm, 5%, 1/4W, Carbon
SR163	EP14X414	18K ohm, 5%, 1/4W, Carbon
SR164	EP14X414	18K ohm, 5%, 1/4W, Carbon
SR165	EP14X105	100K ohm, 5%, 1/4W, Carbon
SR166	EP14X105	100K ohm, 5%, 1/4W, Carbon
SR167	EP14X125	47K ohm, 5%, 1/4W, Carbon
SR168	EP14X125	47K ohm, 5%, 1/4W, Carbon
SR169	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR170	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR171	ES14X71	1K ohm, 5%, 1/4W, Carbon
SR172	EP14X456	6.8K ohm, 5%, 1/4W, Carbon
SR173	EP14X456	6.8K ohm, 5%, 1/4W, Carbon
SR174	EP14X119	68K ohm, 5%, 1/4W, Carbon
SR175	EP14X196	180K ohm, 5%, 1/4W, Carbon
SR176	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
SR177	EP14X196	180K ohm, 5%, 1/4W, Carbon
SR178	EP14X196	180K ohm, 5%, 1/4W, Carbon
SR179	EP14X436	3.6K ohm, 5%, 1/4W, Carbon
SR180	EP14X196	180K ohm, 5%, 1/4W, Carbon
SR181	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
SR182	EP14X380	27K ohm, 5%, 1/4W, Carbon
SR183	EP14X119	68K ohm, 5%, 1/4W, Carbon
SR184	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
SR185	EP14X411	2.4K ohm, 5%, 1/4W, Carbon
SR186	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
SR188	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
SR187	EP14X120	150 ohm, 5%, 1/4W, Carbon
SR190	EP14X418	5.1K ohm, 5%, 1/4W, Carbon
SR192	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
SR193	ES14X65	4.7K ohm, 5%, 1/4W, Carbon
SR194	EP14X120	150 ohm, 5%, 1/4W, Carbon
SR195	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
SR196	EP14X447	39K ohm, 5%, 1/4W, Carbon
SR197	EP14X119	68K ohm, 5%, 1/4W, Carbon
SR198	EP14X128	330 ohm, 5%, 1/4W, Carbon
SR199	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR200	EP14X445	220 ohm, 5%, 1/4W, Carbon

SR201	EP14X318	220 ohm, 5%, 1/4W, Carbon
SR202	EP14X445	220 ohm, 5%, 1/4W, Carbon
SR203	EP14X318	220 ohm, 5%, 1/4W, Carbon
SR204	ES14X58	470 ohm, 5%, 1/4W, Carbon
SR205	EP14X398	15K ohm, 5%, 1/4W, Carbon
SR206	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR207	EP14X128	330 ohm, 5%, 1/4W, Carbon
SR208	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
SR210	EP14X456	6.8K ohm, 5%, 1/4W, Carbon
SR211	EP14X403	220K ohm, 5%, 1/4W, Carbon
SR212	EP14X448	1.2K ohm, 5%, 1/4W, Carbon
SR213	ES14X71	1K ohm, 5%, 1/4W, Carbon
SR214	EP14X183	3.3K ohm, 5%, 1/4W, Carbon
SR215	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR230	EP14X103	10K ohm, 5%, 1/4W, Carbon
SR231	EP14X105	100K ohm, 5%, 1/4W, Carbon

POTENTIOMETERS

REF. NO.	PART NO.	DESCRIPTION
SR118	EP49X463	5K ohm, 20%
SR125	EP49X463	5K ohm, 20%
SR129	EP49X463	5K ohm, 20%
SR138	EP49X463	5K ohm, 20%
SR189	EP49X465	50K ohm, 20%
SR191	EP49X463	5K ohm, 20%

INTERGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION
SIC101	EP84X254	OPS/FM DET
SIC102	EP84X253	(L-R) DEMOD
SIC103	EP84X216	(SAP) DEMOD
SIC104	EP84X252	BIPLR DBX (EXPANDER)
SIC105	EP84X30	QUAD BILATRL MODE SWITCH
SIC106	EP84X119	DL & OD DP AMP
SIC107	EP84X217	3 TERMINAL 12 VOLTAGE REGULATOR

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION
SQ101	EP15X104	IF AMP-HF BIOLAR
SQ102	EP15X87	AUDIO DRIVER-Silicon, NPN
SQ103	EP15X87	DEEMPHASIS-Silicon, NPN
SQ104	EP15X87	AMP-Silicon, NPN
SQ105	EP15X87	SAP CARRIER AMP-Silicon, NPN
SQ106	EP15X87	LED DRIVER-Silicon, NPN
SQ107	EP15X87	SWITCH-Silicon, NPN
SQ108	EP15X87	PUTPUT BUFFER-Silicon, NPN
SQ109	EP15X87	EXPANDER BUFFER-Silicon, NPN
SQ110	EP15X87	AMP-Silicon, NPN
SQ111	EP15X87	SWITCH-Silicon, NPN
SQ112	EP15X87	Silicon, NPN

DIODES

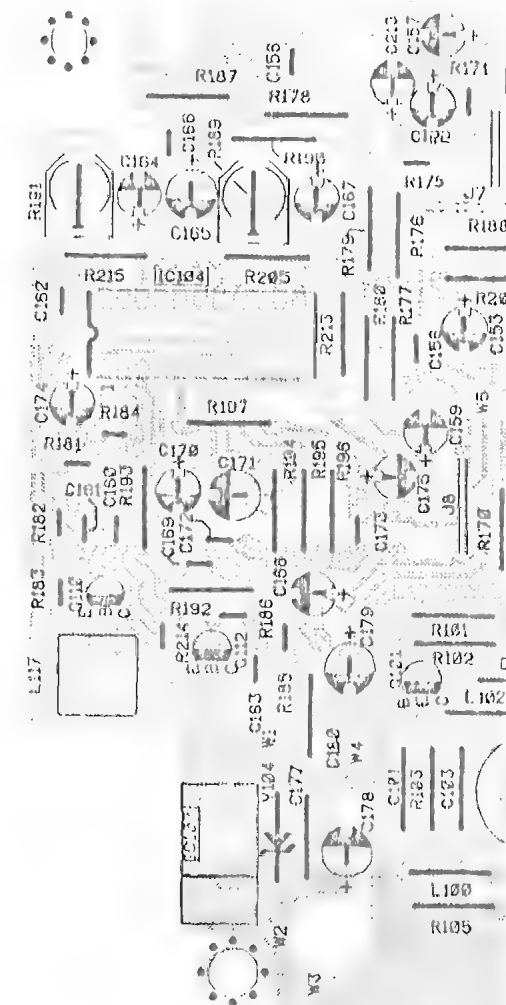
REF. NO.	PART NO.	DESCRIPTION
SY101	ES16X27	Silicon
SY102	ES16X27	Silicon
SY103	EP16X153	Zener, 6.2V
SY104	EP16X156	Zener, 27V
SY106	ES16X27	Silicon

COILS

REF. NO.	PART NO.	DESCRIPTION
BF100	EP41X155	FILTER-Bandpass
CF101	EP18X293	FILTER-Ceramic
SF101	EP14X158	COIL-Surface Wavefil.
SL103	EP36X494	CHOKE-.56μh, 10%
SL102	EP36X494	CHOKE-.56μh, 10%
SL103	EP36X495	CHOKE-.82μh, 10%
SL104	EP36X496	COIL-Tuned Inductor
SL105	EP36X433	COIL-Molded
SL106	EP36X309	CHOKE-1μh, 10%
SL107	EP36X265	CHOKE-6.8μh, 10%
SL108A	EP36X501	CHOKE-5400μh, 5%
SL108B	EP36X501	CHOKE-5400μh, 5%
SL109	EP36X493	COIL-Tuned Inductor
SL110	EP36X493	COIL-Tuned Inductor
SL111	EP36X493	COIL-Tuned Inductor
SL115	EP36X447	COIL-Remote Control
SL116	EP36X493	COIL-Tuned Inductor
SL117	EP36X447	COIL-Remote Control
SL118	EP36X447	COIL-Remote Control

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL1A	EP8X67	CONNECTOR-4 Pos.
RL7A	EP8X68	CONNECTOR-2 Pos.



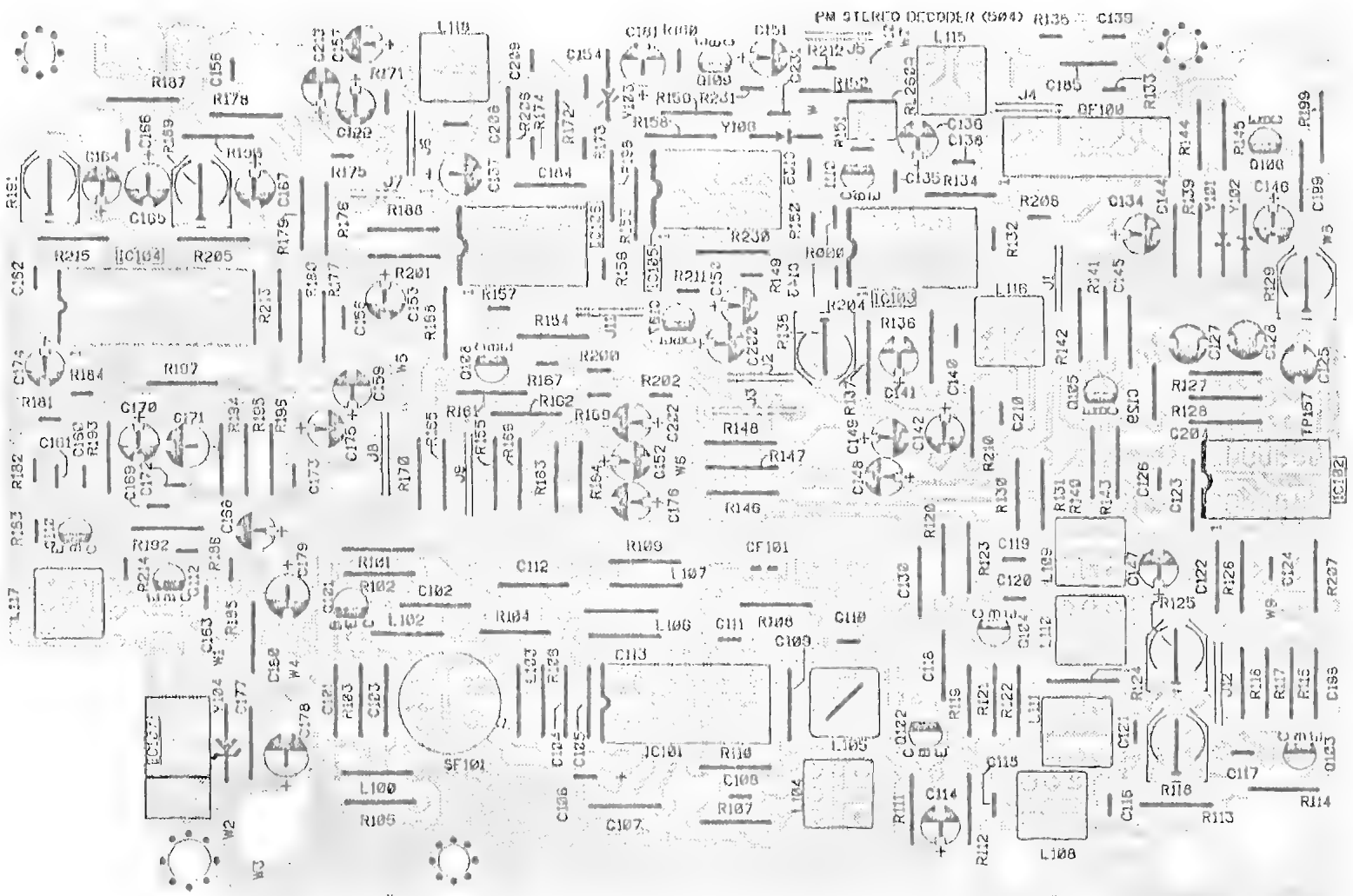
STEREO/BILINGUAL CIRCUIT BOARD LAYOUT

COILS

REF. NO.	PART NO.	DESCRIPTION
BF100	EP41X155	FILTER-Bandpass
CF101	EP18X293	FILTER-Ceramic
SF101	EP41X150	COIL-Surface Wavefil.
SL100	EP36X494	CHOKE-.56 μ h, 10%
SL102	EP36X494	CHOKE-.56 μ h, 10%
SL103	EP36X495	CHOKE-.82 μ h, 10%
SL104	EP36X496	COIL-Tuned Inductor
SL105	EP36X433	COIL-Molded
SL106	EP36X309	CHOKE-1 μ h, 10%
SL107	EP36X265	CHOKE-8.8 μ h, 10%
SL108A	EP36X501	CHOKE-5400 μ h, 5%
SL108B	EP36X501	CHOKE-5400 μ h, 5%
SL109	EP36X493	COIL-Tuned Inductor
SL110	EP36X493	COIL-Tuned Inductor
SL111	EP36X493	COIL-Tuned Inductor
SL115	EP36X447	COIL-Remote Control
SL116	EP36X493	COIL-Tuned Inductor
SL117	EP36X447	COIL-Remote Control
SL118	EP36X447	COIL-Remote Control

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION
RL1A	EP8X67	CONNECTOR-4 Pos.
RL7A	EP8X68	CONNECTOR-2 Pos.



(COPPER SIDE)

The block diagram illustrates the system architecture with the following components and connections:

- TUNER CONTROL ASSEMBLY**: The central control unit.
- CHANNEL NUMBER DISPLAY**: A digital display showing the number 12, connected to the Tuner Control Assembly.
- U/V TUNER**: A tuner unit connected to the Tuner Control Assembly.
- POWER SUPPLY INTERFACE**: A unit labeled PC CHASSIS, which provides power to the other components.

Connections are shown as follows:

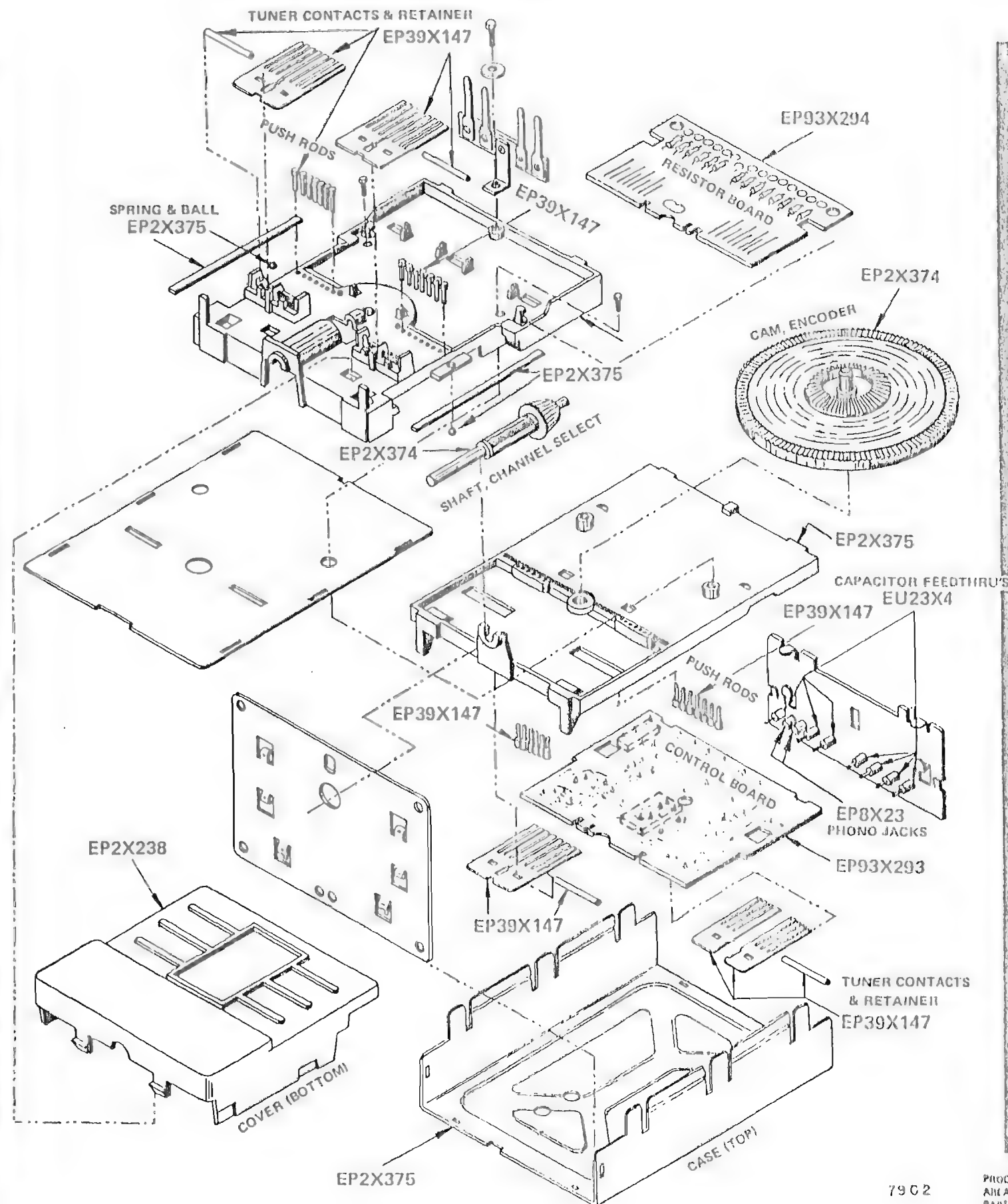
- The **POWER SUPPLY INTERFACE** is connected to the **TUNER CONTROL ASSEMBLY**, **CHANNEL NUMBER DISPLAY**, and **U/V TUNER**.
- The **TUNER CONTROL ASSEMBLY** is connected to the **CHANNEL NUMBER DISPLAY** and the **U/V TUNER**.



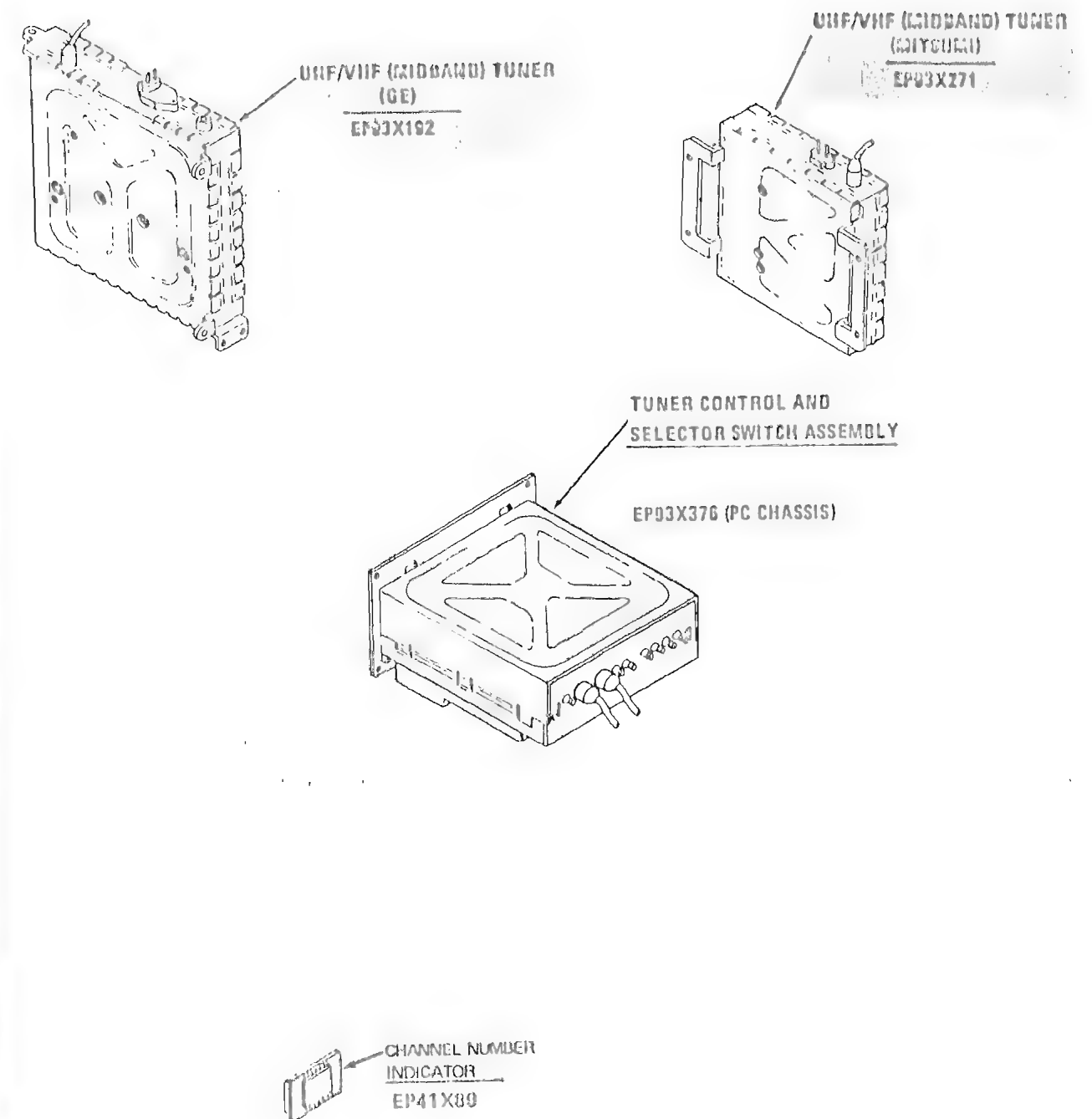
Diagram illustrating the exploded view of the A-1000 receiver chassis, showing various components and their assembly positions. Key components labeled include:

- TUNER CONTACTS & RETAINER EP39X147
- PUSH RODS
- SPRING & BALL EP2X375
- EP39X147
- EP2X375
- SHAFT, CHANNEL SELECT
- EP2X374
- RESISTOR BOARD EP93X294
- CAM, ENCODER EP2X374
- CAPACITOR FEEDTHRU'S EU23X4
- EP39X147
- PUSH RODS
- CONTROL BOARD
- EP8X23 PHONO JACKS
- EP93X293
- TUNER CONTACTS & RETAINER EP39X147
- COVER (BOTTOM) EP2X238
- CASE (TOP) EP2X375

ET91 CONTROL ASSEMBLY (EP93X376) EXPLODED VIEW



ET91 SYSTEM COMPONENT ASSEMBLIES



ET91 (w/PRESCALER) COMPONENT ASSEMBLIES

79 C 2

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A RECEIVER. THE (#) BESIDE A PART IN THE PARTS LIST AND THE SHADED AREAS OF THE SCHEMATIC DIAGRAM DESIGNATE COMPONENTS IN WHICH SAFETY CAN BE OF SPECIAL SIGNIFICANCE. IT IS PARTICULARLY RECOMMENDED THAT EXACT CATALOGUED PARTS BE USED FOR REPLACEMENT OF COMPONENTS WHICH ARE DESIGNATED BY A (#) IN THE PARTS LIST AND THE SHADED AREAS ON THE SCHEMATIC DIAGRAM. USE OF SUBSTITUTE REPLACEMENT PARTS WHICH DO NOT HAVE THE SAME SAFETY CHARACTERISTICS AS RECOMMENDED IN FACTORY SERVICE INFORMATION MAY CREATE SHOCK, FIRE OR OTHER HAZARDS, OR EXCESSIVE X-RADIATION.

(PC) 6-10

GENERAL ELECTRIC

K USE AN OSCILLOSCOPE TO CHECK FOR THE VIDEO SIGNAL SVPPAT PIN 27 OF IC300. IS IT THERE?

USE A CLIP LEAD TO JUMPER FROM L220 (DELAY LINE) TO THE POSITIVE SIDE OF C216. DOES THE BLACK AND WHITE PART OF THE PICTURE COME BACK ON?

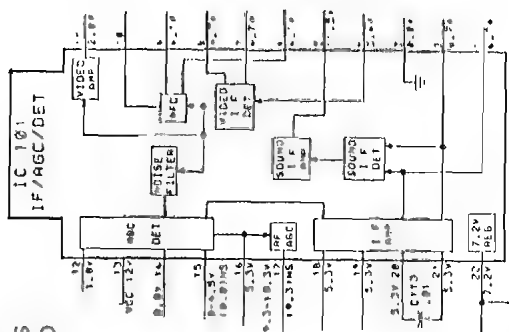
THE PROBLEM IS IN THE CIRCUITRY OF Q206 AND Q204. THEY SHOULD READ 10:1 FRONT TO BACK RESISTANCE IN CIRCUIT.

USE A SIGNAL GENERATOR OR TUNER SUBBER TO INJECT A SIGNAL INTO THE BASE OF Q105.* CAN A PICTURE BE OBTAINED?

*ALTERNATE METHOD: UNPLUG PG 7 FROM THE CIRCUIT BOARD. QUICKLY "MAKE AND BREAK" CONTACT BETWEEN PG 7 AND ITS CONNECTING PINS ON THE BOARD. DOES THIS CAUSE THE RASTER TO FLASH?

THE PROBLEM IS IN THE TUNER OR ELECTRONIC TUNING SYSTEM.

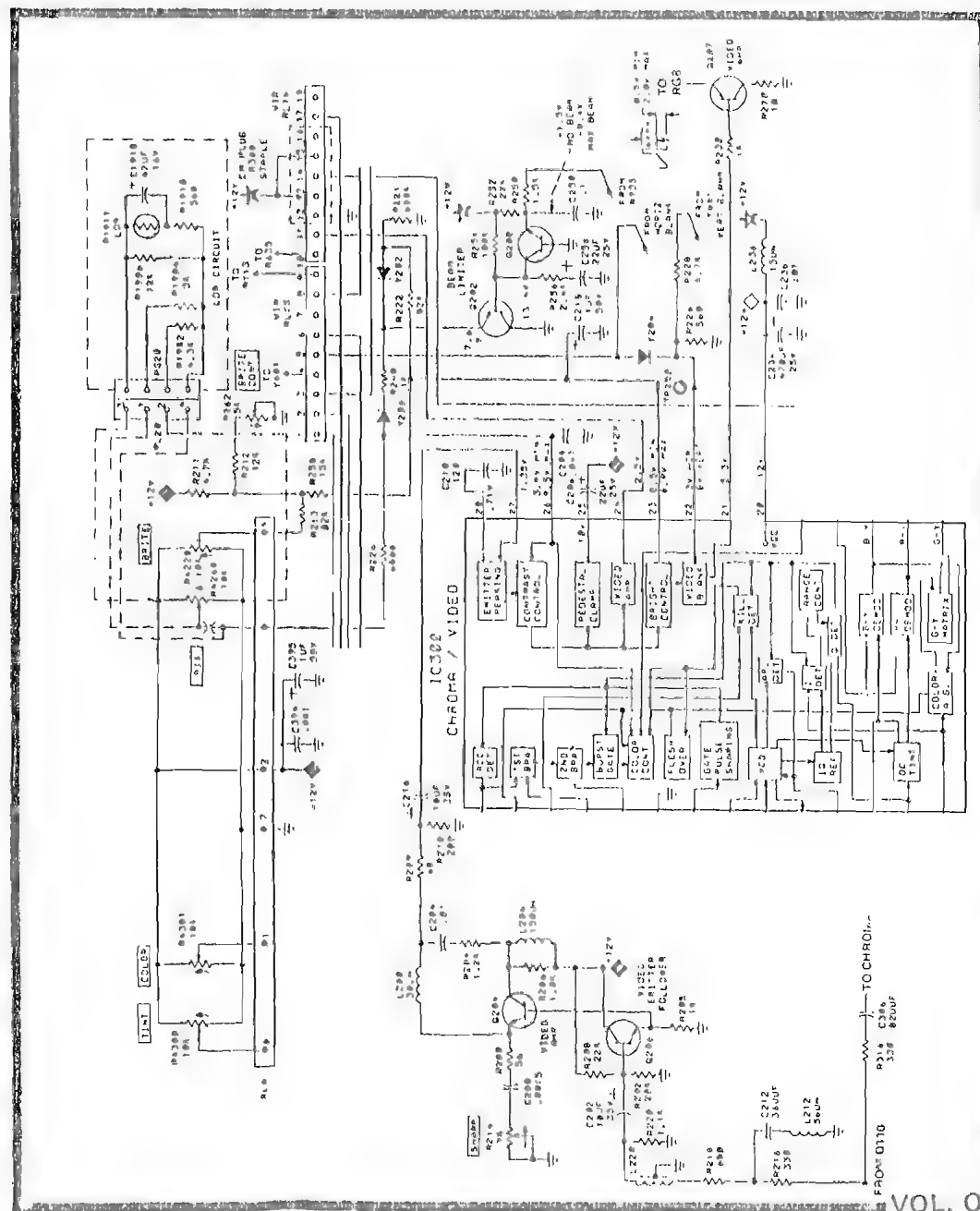
A CHECK Q105 AND Q110 AND THEIR ASSOCIATED CIRCUITRY. IF THEY ARE GOOD MEASURE THE DC VOLTAGES ON IC101 AS SHOWN BELOW. IF ANY VOLTAGES ARE INCORRECT TRY TO DETERMINE THE CAUSE. IF NO SUCCESS REPLACE IC101.



USE AN OSCILLOSCOPE TO CHECK FOR THE VIDEO SIGNAL (TVPP) AT PIN 21 OF IC300. IS IT THERE?

CHECK Q207. THE FRONT TO BACK RESISTANCES SHOULD READ 10:1 IN THE CIRCUIT.

MEASURE THE DC VOLTAGES ON IC300 AS SHOWN BELOW. PAY PARTICULAR ATTENTION TO THE BRIGHTNESS CONTROL RANGE(PIN 23) AND PICTURE CONTROL RANGE(PIN 26). IF ANY VOLTAGES ARE INCORRECT TRY TO DETERMINE THE CAUSE. IF NO SUCCESS REPLACE IC300.



RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR COMPONENT LOCATION (SEE PC CHASSIS LAYOUT - THIS PAGE)

NO AUDIO

DOES THE SET HAVE "PUSH BUTTON" "VOLUME UP" AND "VOLUME DOWN" CONTROLS?

YES

NO

MEASURE THE VOLTAGE AT PIN 8 OF IC190. WILL THE VOLTAGE CHANGE FROM 0 TO +2VDC AS "VOLUME UP" IS DEPRESSED AND HELD DOWN?

YES

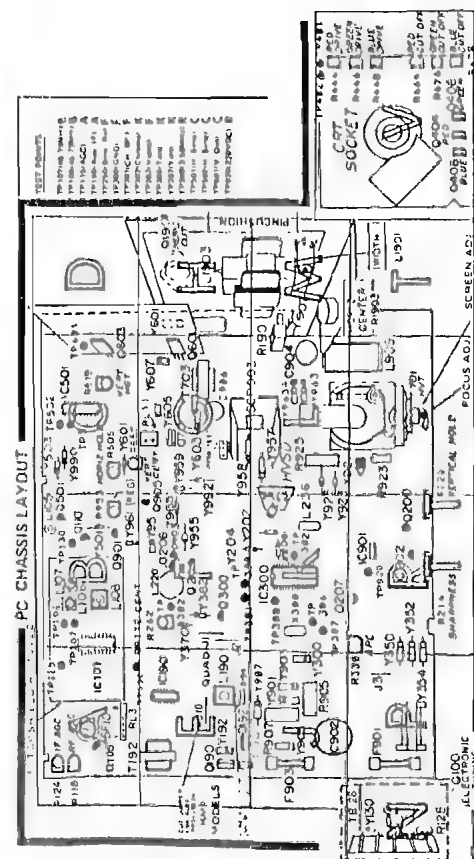
NO

DISCONNECT PG2. DOES THE SOUND COME ON AT FULL VOLUME?

NO

YES

THE PROBLEM IS IN THE VOLUME CONTROL CIRCUITRY OF THE ELECTRONIC TUNING SYSTEM.



TURN THE VOLUME CONTROL UP. INJECT AN AUDIO FREQUENCY SIGNAL* INTO THE POSITIVE SIDE OF C198. CAN THE SIGNAL BE HEARD?

NO

YES

INJECT THE SAME SIGNAL* INTO THE POSITIVE SIDE OF C190. CAN THE SIGNAL BE HEARD?

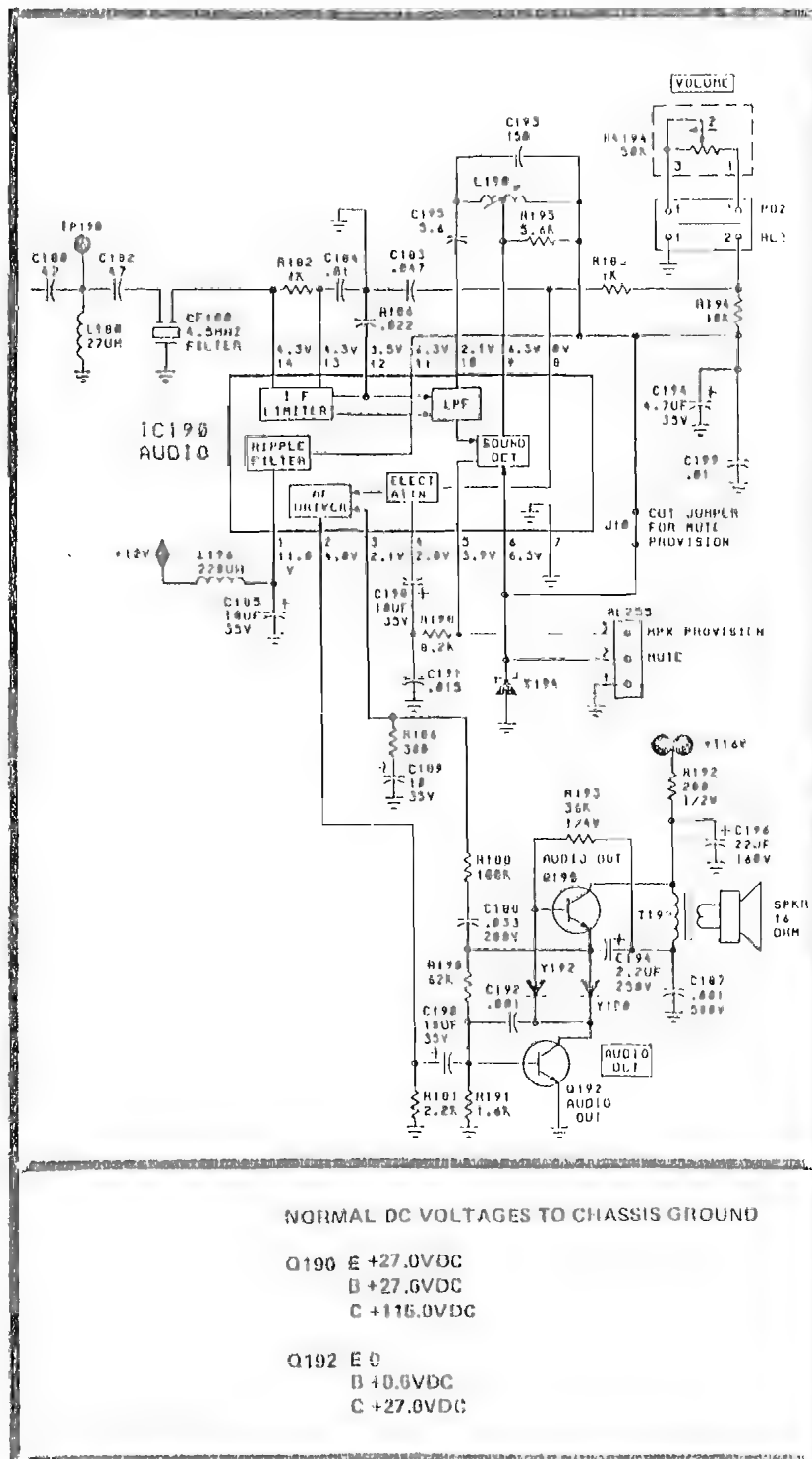
NO

YES

THE PROBLEM IS IN THE AUDIO OUTPUT STAGES. Q190 AND Q192 ARE THE MOST LIKELY FAULTS. THE FRONT TO BACK RESISTANCE SHOULD BE AT LEAST 10:1 IN CIRCUIT.

MEASURE THE DC VOLTAGES ON IC190 AS SHOWN BELOW. IF ANY VOLTAGES ARE INCORRECT TRY TO DETERMINE THE CAUSE. IF NO SUCCESS REPLACE IC190.

*ALTERNATE METHOD OF SIGNAL INJECTION: USE A CLIP LEAD IN SERIES WITH A .47 MFD CAPACITOR TO INJECT VERTICAL PULSES FROM RG21 INTO THE AUDIO. THIS WILL PRODUCE A 60-HZ BUZZ.



NO SYNC / ABNORMAL SYNC

OBSERVE THE PICTURE. DOES THE SET HAVE:

NO VERTICAL SYNC

R

CHECK THE ADJUSTMENT OF THE VERTICAL HOLD CONTROL, R620.

C

USE AN OSCILLOSCOPE TO CHECK FOR VERTICAL SYNC PULSES (3.5VPP) ON PIN 7 OF IC501. ARE THEY THERE?

YES

CHECK FOR SOLDER CONNECTIONS, COMPONENT LEAD DRESS, AND SOLDER SHORTS AROUND PINS 2, 3, AND 6 OF IC501.

NO

C G

CHECK THE INTEGRATOR NETWORK R633, R634, R635, C609, C611. CHECK FOR SOLDER CONNECTIONS, COMPONENT LEAD DRESS, AND SOLDER SHORT AROUND PINS 7 AND 8 OF IC501.

NO HORIZONTAL SYNC

C

CHECK THE ADJUSTMENT OF THE HORIZONTAL HOLD CONTROL R505.

G

USE AN OSCILLOSCOPE TO CHECK FOR HORIZONTAL FLYBACK PULSES (100VPP) ON THE ANODE OF Y992. ARE THEY THERE?

YES

C

MEASURE THE VOLTAGE ON THE CATHODE OF Y990. IS IT:

+4.5VDC

0

L

REPLACE THE HIGH VOLTAGE SHUTDOWN MODULE.

C

CHECK FOR SOLDER CONNECTIONS, COMPONENT LEAD DRESS, AND SOLDER SHORTS AROUND PINS 11, 12, AND 13 OF IC501.

NO

C

CHECK R990 AND THE HVT WINDING FROM PINS 15 TO 13.

NO VERTICAL OR HORIZONTAL SYNC

C

USE AN OSCILLOSCOPE TO CHECK FOR A VIDEO SIGNAL (1.5VPP) AT PIN 10 OF IC501. IS IT THERE?

NO

B

USE AN OSCILLOSCOPE TO CHECK FOR A VIDEO SIGNAL (1.5VPP) AT THE COLLECTOR OF Q501. IS IT THERE?

NO

CHECK Q501, Y501, AND THEIR ASSOCIATED CIRCUITRY.

YES

C

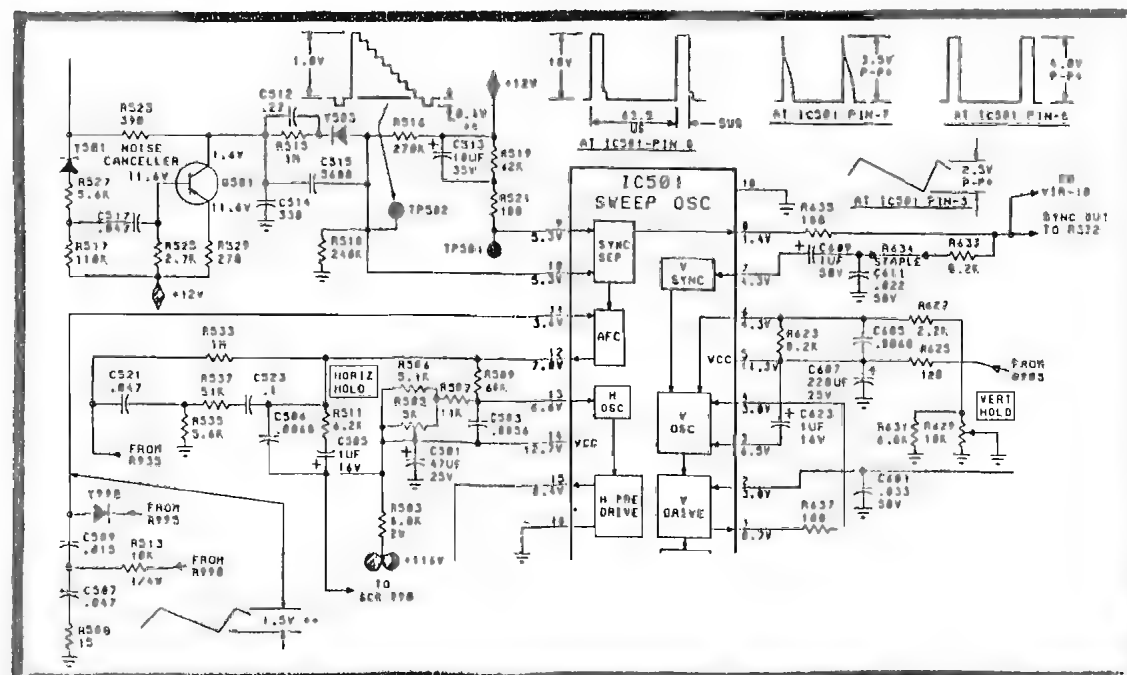
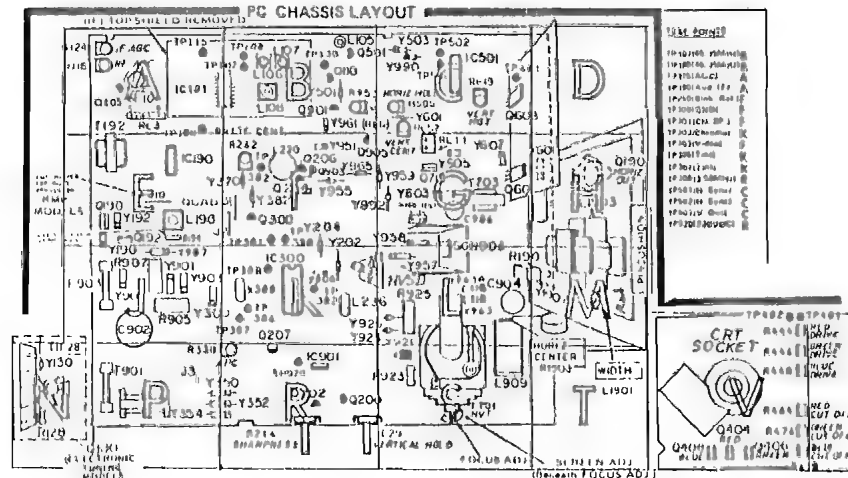
CHECK Y503, C512, C515 AND ASSOCIATED CIRCUITRY. CHECK FOR SOLDER CONNECTIONS, LEAD DRESS, AND SOLDER SHORTS AROUND PIN 10 OF IC501.

NO

C

MEASURE THE DC VOLTAGE ON PIN 9 OF IC501. IS IT +5.3VDC $\pm 20\%$?

YES



IF NO SUCCESS REPLACE IC501.

C

RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR COMPONENT LOCATION (SEE PC CHASSIS LAYOUT - THIS PAGE)

NO RASTER (NORMAL SOUND)

OBSERVE THE PICTURE TUBE FILAMENTS ARE THEY LIT?
YES
NO

ADJUST THE BRIGHTNESS AND PICTURE CONTROLS TO MAXIMUM. MEASURE THE VOLTAGE ON PIN 6 OF THE PICTURE TUBE. IS THE VOLTAGE MORE THAN +210VDC?

NO

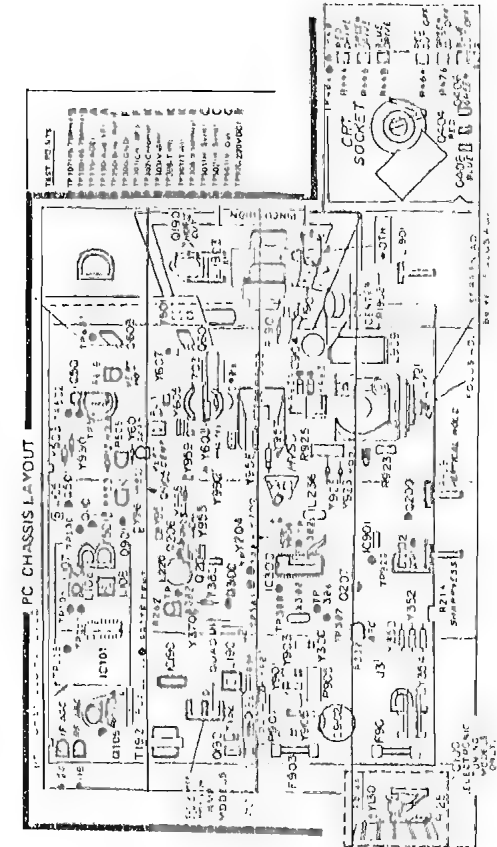
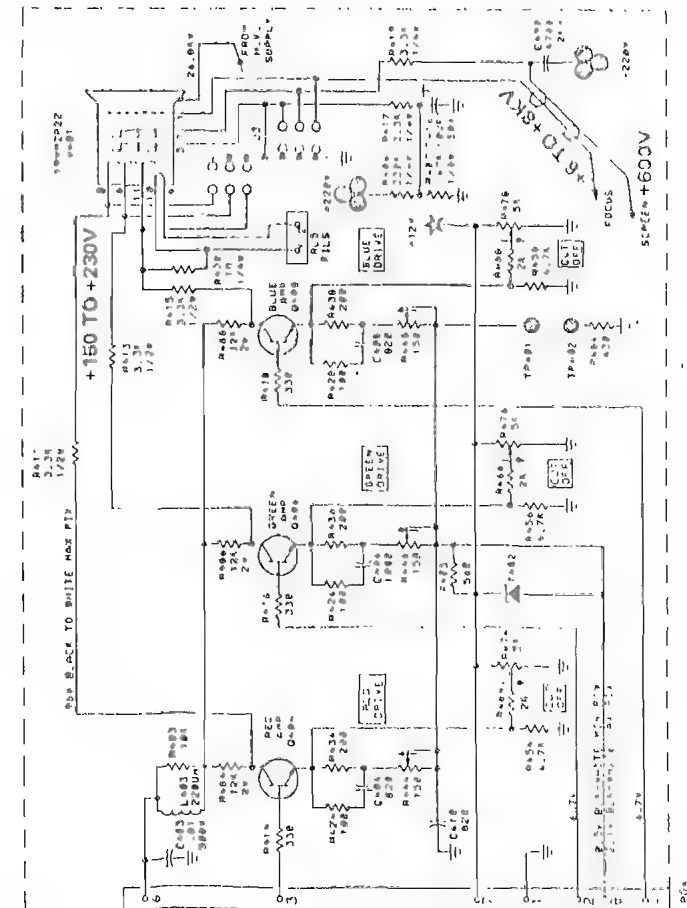
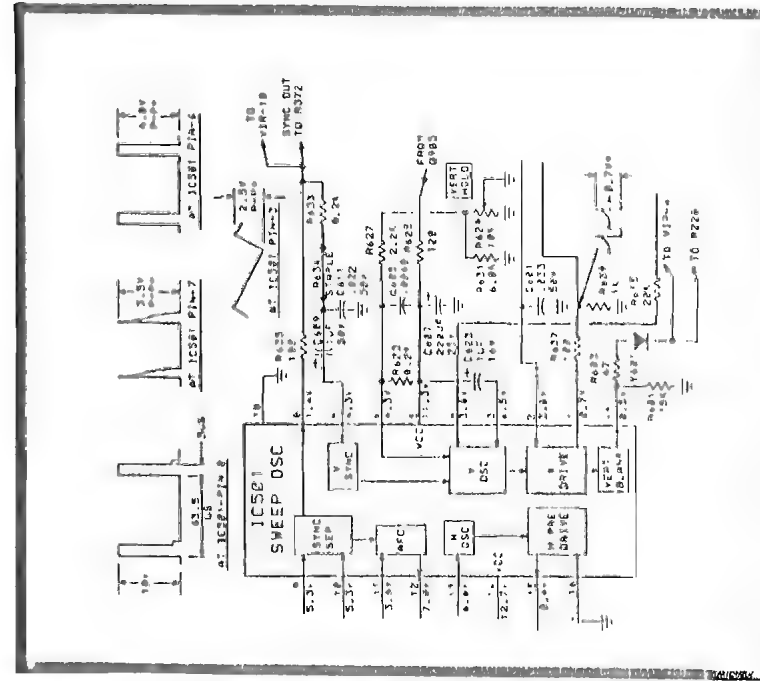
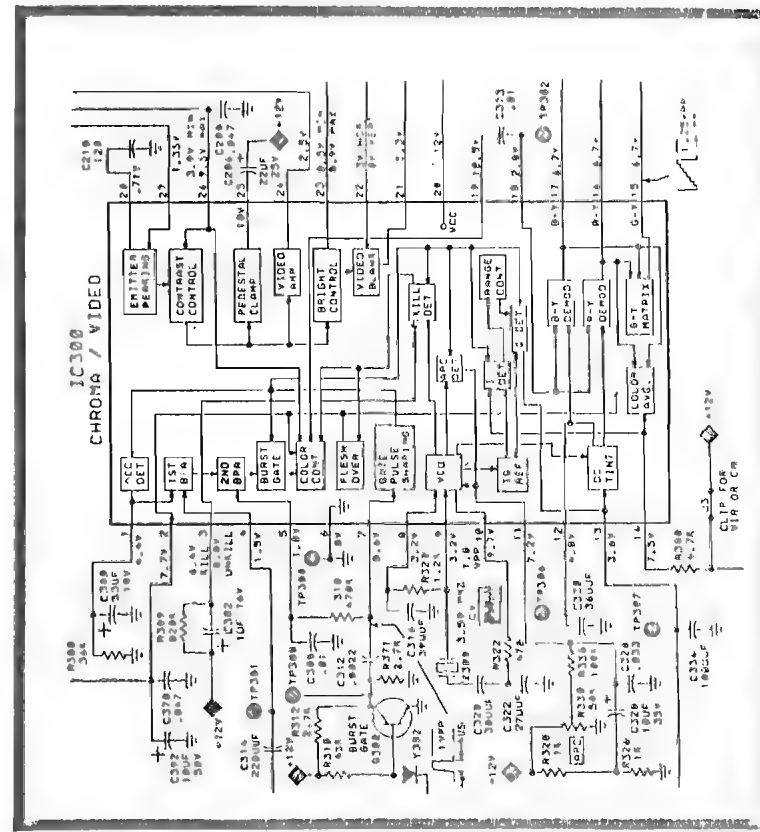
REMOVE POWER FROM THE RECEIVER. REMOVE THE PICTURE TUBE SOCKET AND CHECK THE CONTINUITY OF ITS FILAMENT (PINS 9 AND 10). IF THE PICTURE TUBE FILAMENT IS GOOD CHECK THE CONTINUITY OF THE HVT WINDING FROM PINS 7 TO 9. ALSO CHECK L929 AND C933 IN THE FILAMENT CIRCUIT.

MEASURE THE REMAINING VOLTAGES ON THE PICTURE TUBE AS SHOWN BELOW. IF THEY ARE INCORRECT TRY TO DETERMINE THE CAUSE. IF NO SUCCESS SUSPECT A BAD PICTURE TUBE.

MEASURE THE VOLTAGE ON PIN 17 OF IC501. IS THE VOLTAGE ABOUT:
+1VDC
+8VDC

THE PICTURE TUBE IS BLANKED OFF BY A FAILURE IN THE VIDEO STAGES. CHECK Q207 FIRST. IF NO SUCCESS MEASURE THE VOLTAGES ON IC300 AS SHOWN BELOW. IF ANY VOLTAGE IS INCORRECT TRY TO DETERMINE THE CAUSE. IF NO SUCCESS REPLACE IC300. **K R**

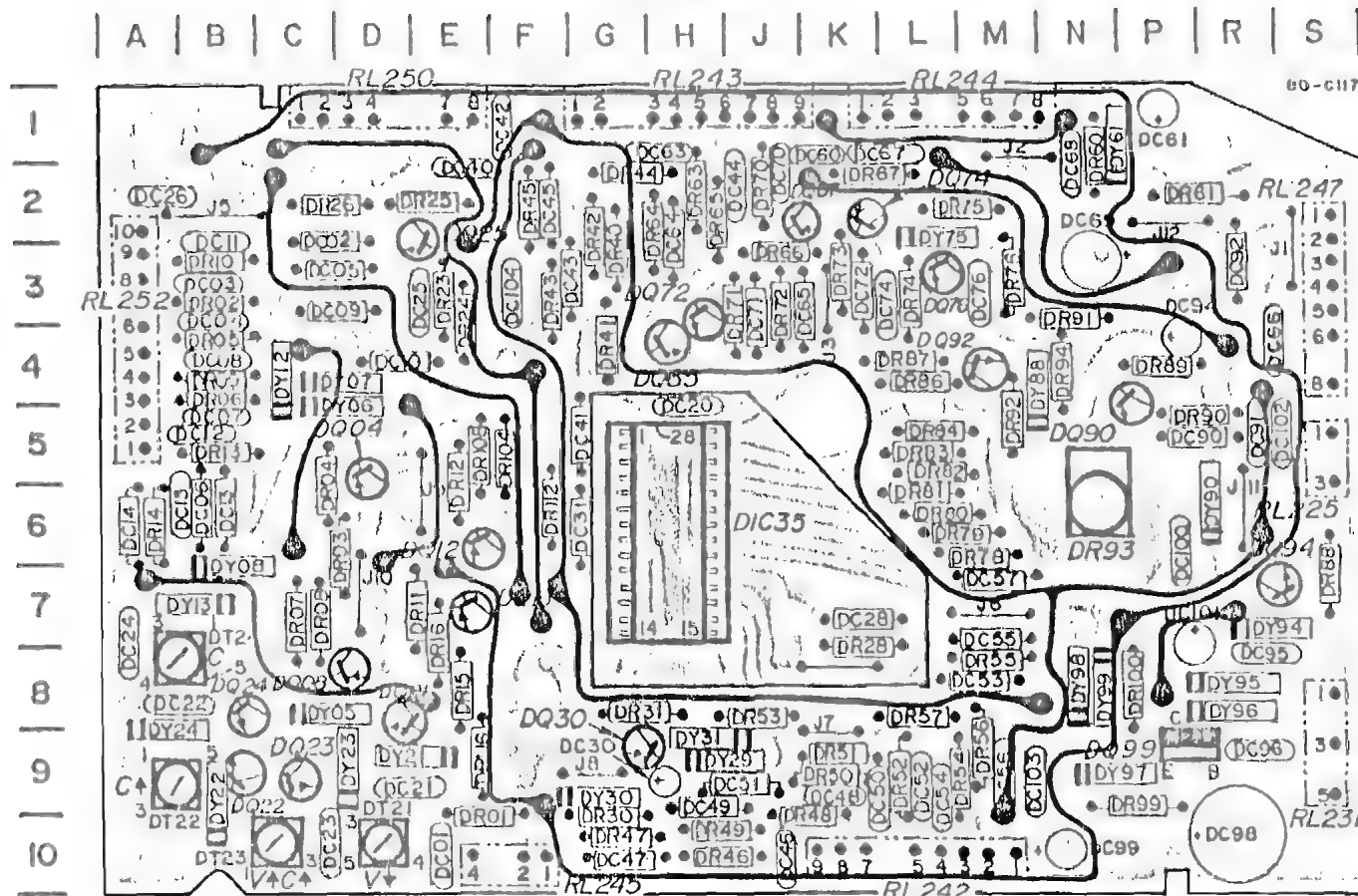
THE PICTURE TUBE IS BLANKED OFF BY A FAILURE IN THE VERTICAL OSCILLATOR. MEASURE THE VOLTAGES ON IC501 AS SHOWN BELOW. IF ANY VOLTAGE IS INCORRECT TRY TO DETERMINE THE CAUSE. IF NO SUCCESS REPLACE IC501. **C**



LMP-91 TUNER CONTROL MODULE
EP93X279

LMP-91 TUNER CONTROL MODULE
EP93X279

PC CHASSIS

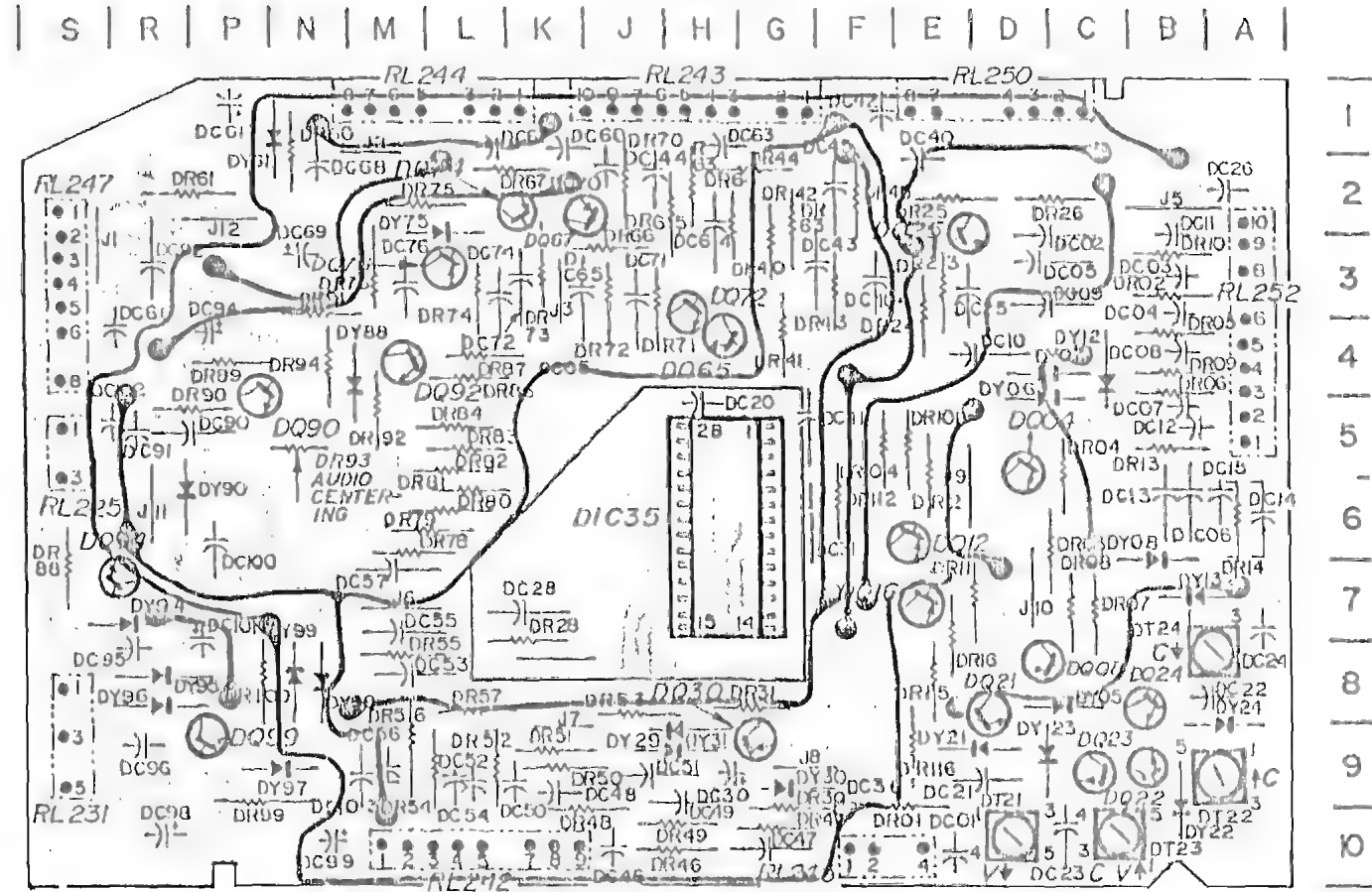


COMPONENT SIDE

COLOR = TOP COPPER PATTERN

COMPONENT LOCATION

RESISTORS			CAPACITORS			DIODES	TRANSFORMERS
DR01-E10	DR45-F2	DR79-M6	DC01-E10	DC43-F3	DC74-L3	D405-CB	DT21-D10
DR02-B3	DR46-H10	DR80-L6	DC02-C3	DC44-J2	DC76-M3	D406-D4	DT22-A9
DR03-C6	DR47-G10	DR81-L8	DC03-B3	DC45-F2	DC90-P6	D407-C4	DT23-B10
DR04-C6	DR48-K10	DR82-L5	DC04-B3	DC46-J10	DC91-R5	D408-B6	DT24-B7
DR06-B4	DR49-H10	DR83-L6	DC05-C3	DC47-G10	DC92-R3	D412-C4	
DR07-C7	DR50-K9	DR84-L5	DC06-B6	DC48-K9	DC94-P3	D413-B7	
DR08-C7	DR51-K9	DR86-L4	DC07-B5	DC49-H10	DC95-R8	D421-E9	
DR09-B4	DR52-L9	DR87-L4	DC08-B4	DC50-K10	DC96-R9	D422-B10	
DR10-B3	DR53-H8	DR88-S6	DC09-C3	DC51-J8	DC98-R10	D423-D9	
DR11-E7	DR54-M10	DR89-P4	DC10-D4	DC52-L8	DC99-N10	D424-AB	
DR12-E6	DR55-M8	DR90-P4	DC11-B2	DC53-L8	DC100-P7	D429-I9	
DR13-B5	DR56-M9	DR91-N3	DC12-B5	DC54-L9	DC101-P7	D430-G9	
DR14-A6	DR57-L8	DR92-M5	DC13-B6	DC55-M7	DC102-R4	D431-H9	
DR15-E8	DR60-N1	DR93-N5	DC14-A6	DC56-M9	DC103-M9	D461-P2	
DR16-E8	DR61-R2	DR94-N4	DC15-A5	DC57-M7	DC104-F3	D475-M2	
DR23-E3	DR63-H2	DR99-P10	DC20-H5	DC60-J1		D488-M4	
DR24-E4	DR64-H2	DR100-P8	DC21-E9	DC61-P1		D490-P8	
DR25-E2	DR66-I3	DR104-F6	DC22-A8	DC63-G4		D499-R7	
DR26-C2	DR67-K2	DR108-E5	DC23-C10	DC64-H3		D495-R8	
DR28-K7	DR70-I1	DR112-F6	DC24-A8	DC65-K3		D496-R8	
DR30-G9	DR71-J4		DC15-O3	DC66-R4		D497-N9	
DR31-G8	DR72-J4		DC26-A2	DC67-K1		D498-N8	
DR40-G3	DR73-K4		DC30-H9	DC68-N2		D499-N8	
DR41-GA	DR74-L3		DC31-C6	DC69-N3			
DR42-G2	DR75-L2		DC40-E1	DC70-J2			
DR43-G4	DR76-M3		DC41-F5	DC71-J3			
DR44-G2	DR78-B6		DC42-F1	DC72-K3			



COPPER SIDE

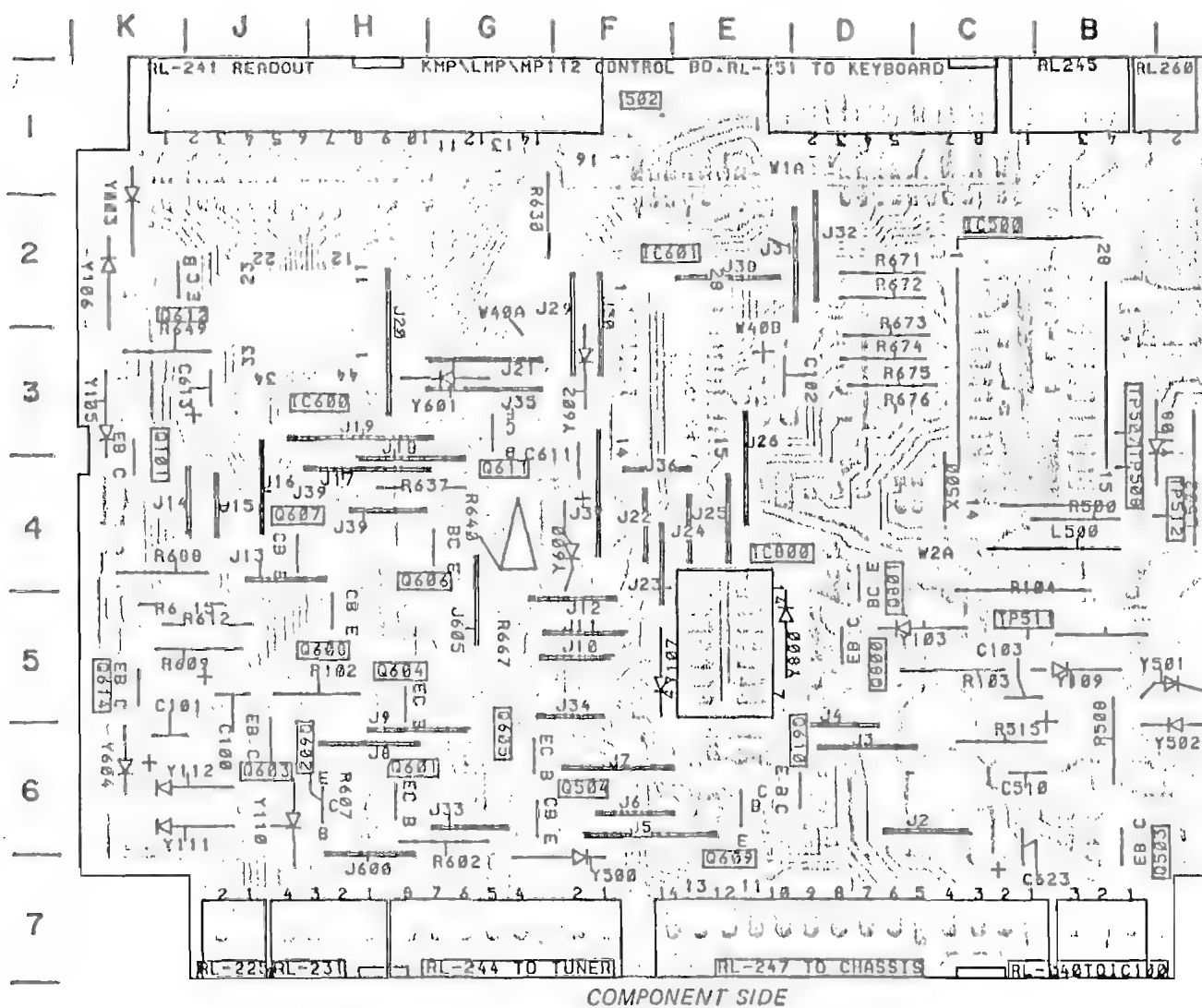
COLOR = TOP COPPER PATTERN

COMPONENT LOCATION

RESISTORS			CAPACITORS			DIODES	TRANSFORMERS
DR01-E10	DR45-F2	DR79-M6	DC01-E10	DC43-F3	DC74-L3	D405-CB	DT21-D10
DR02-B3	DR46-H10	DR80-L6	DC02-C3	DC44-J2	DC76-M3	D406-D4	DT22-A9
DR03-C6	DR47-G10	DR81-L8	DC03-B3	DC45-F2	DC90-P6	D407-C4	DT23-B10
DR04-C6	DR48-K10	DR82-L5	DC04-B3	DC46-J10	DC91-R5	D408-B6	DT24-B7
DR06-B4	DR49-H10	DR83-L6	DC05-C3	DC47-G10	DC92-R3	D412-C4	
DR07-C7	DR50-K9	DR84-L5	DC06-B6	DC48-K9	DC94-P3	D413-B7	
DR08-C7	DR51-K9	DR86-L4	DC07-B5	DC49-H10	DC95-R8	D421-E9	
DR09-B4	DR52-L9	DR87-L4	DC08-B4	DC50-K10	DC96-R9	D422-B10	
DR10-B3	DR53-H8	DR88-S6	DC09-C3	DC51-J8	DC98-R10	D423-D9	
DR11-E7	DR54-M10	DR89-P4	DC10-D4	DC52-L8	DC99-N10	D424-AB	
DR12-E6	DR55-M8	DR90-P4	DC11-B2	DC53-L8	DC100-P7	D429-I9	
DR13-B5	DR56-M9	DR91-N3	DC12-B5	DC54-L9	DC101-P7	D430-G9	
DR14-A6	DR57-L8	DR92-M5	DC13-B6	DC55-M7	DC102-R4	D431-H9	
DR15-E8	DR60-N1	DR93-N5	DC14-A6	DC56-M9	DC103-M9	D461-P2	
DR16-E8	DR61-R2	DR94-N4	DC15-A5	DC57-M7	DC104-F3	D475-M2	
DR23-E3	DR63-H2	DR99-P10	DC20-H5	DC60-J1		D488-M4	
DR24-E4	DR64-H2	DR100-P8	DC21-E9	DC61-P1		D490-P8	
DR25-E2	DR66-I3	DR104-F6	DC22-A8	DC63-G4		D499-R7	
DR26-C2	DR67-K2	DR108-E5	DC23-C10	DC64-H3		D495-R8	
DR28-K7	DR70-I1	DR112-F6	DC24-A8	DC65-K3		D496-R8	
DR30-G9	DR71-J4		DC15-O3	DC66-R4		D497-N9	
DR31-G8	DR72-J4		DC26-A2	DC67-K1		D498-N8	
DR40-G3	DR73-K4		DC30-H9	DC68-N2		D499-N8	
DR41-GA	DR74-L3		DC31-C6	DC69-N3			
DR42-G2	DR75-L2		DC40-E1	DC70-J2			
DR43-G4	DR76-M3		DC41-F5	DC71-J3			
DR44-G2	DR78-B6		DC42-F1	DC72-K3			

KMP/LMP/MP-112 ELECTRONIC TUNER CC

EP93X412 (MP112) → EP9



COMPONENT SIDE

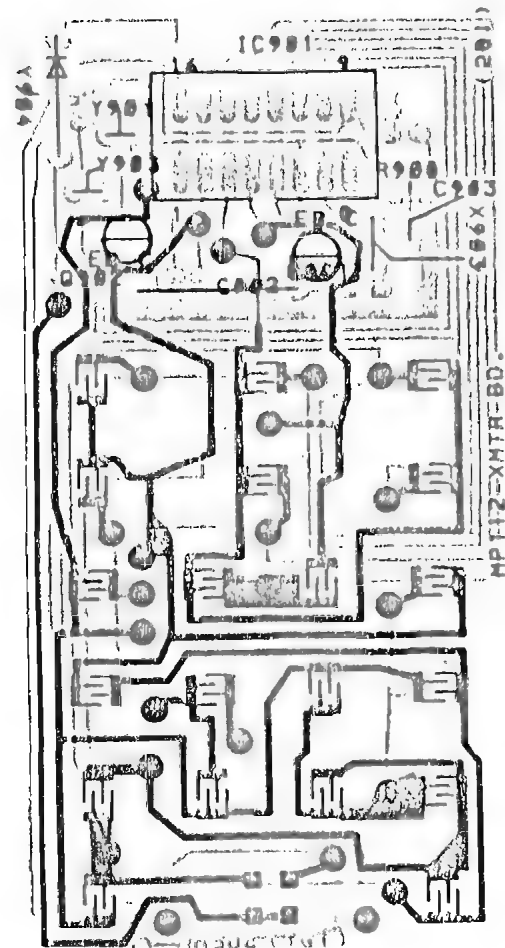
RESISTORS

R101-K4	R516-A3	R617-J5	R639-G4	R660-H2	R679-D2	R802-D5
R102-J5	R517-B7	R619-E2	R640-G4	R661-H2	R680-D3	R803-D4
R103-C5	R601-F7	R620-D2	R641-G4	R662-H1	R681-D3	
R105-K4	R602-G7	R621-D2	R642-E6	R663-G1	R682-D4	
R108-K3	R603-H6	R622-C2	R643-F6	R664-F6	R683-D4	
R107-K2	R603-D4	R623-C2	R644-E6	R665-K2	R684-B1	
R500-B4	R604-H6	R625-C2	R645-E6	R666-G4	R685-B1	
R501-A3	R605-J8	R626-D2	R646-J3	R667-G5	R687-E8	
R502-B5	R606-G7	R627-E2	R649-K3	R668-G3	R688-K5	
R503-A4	R607-H6	R628-E2	R650-K2	R669-K2	R689-K5	
R507-A6	R608-F2	R629-F2	R651-K2	R670-K2	R690-E6	
R508-B6	R609-K5	R629-G2	R652B-J2	R671-D2	R691-D6	
R509-B6	R610-G8	R631-H2	R653-J2	R672-C2	R692-H5	
R511-C5	R611-G8	R632-G5	R654-J1	R673-C3	R693-D6	
R511-A6	R612-J5	R633-H4	R655-J2	R674-C3	R694-K8	
R512-A6	R613-G5	R634-H4	R656-J1	R675-C3	R695-F4	
R513-B5	R614-G5	R635-H5	R657-J1	R676-D3	R696-C2	
R514-B5	R615-J5	R637-H4	R658-J2	R677-E3	R800-E5	
R515-C6	R616-J5	R638-F4	R659-H2	R678-D2	R801-D5	

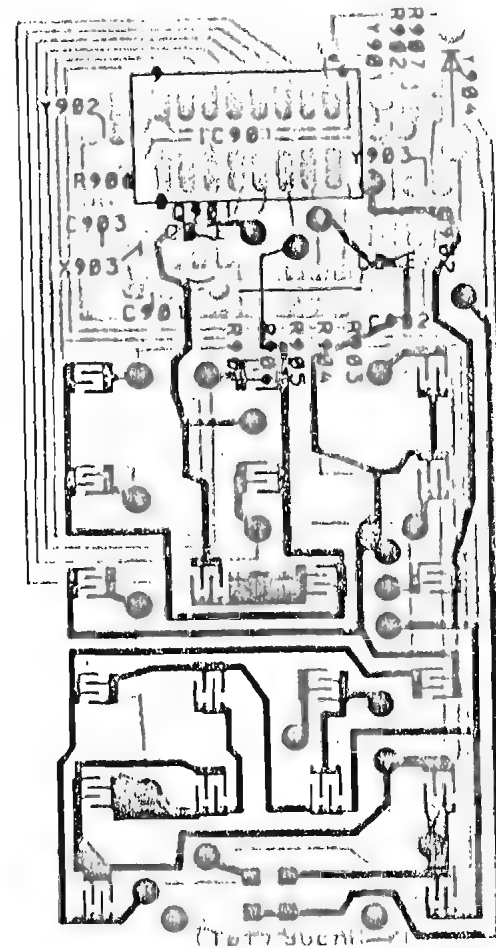
- COMPONENTS NOT USED IN KMP112 CONTROL MODULE ONLY
- COMPONENTS NOT USED IN LMP/MP-112 CONTROL MODULES ONLY

LMP112 REMOTE TRANSMITTER (EP62X164) COMPONENT LAYOUT AND LOCATION

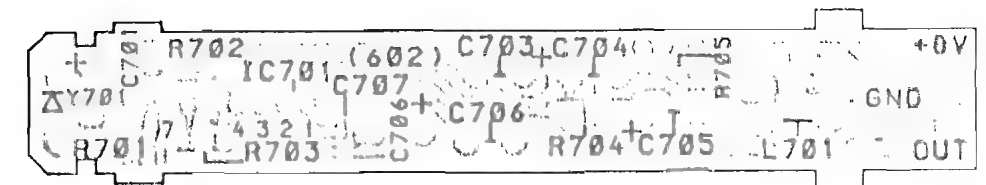
LMP112 REMOTE RECEIVER (EP93X417) COMPONENT LAYOUT AND LOCATION



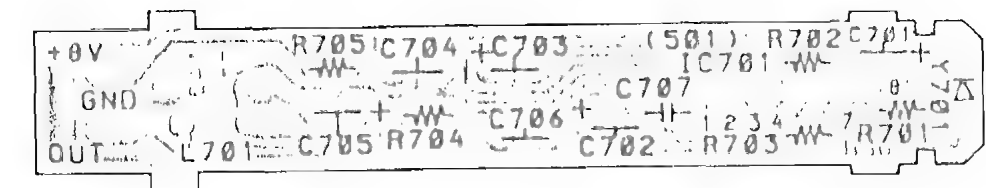
COMPONENT SIDE



COPPER SIDE

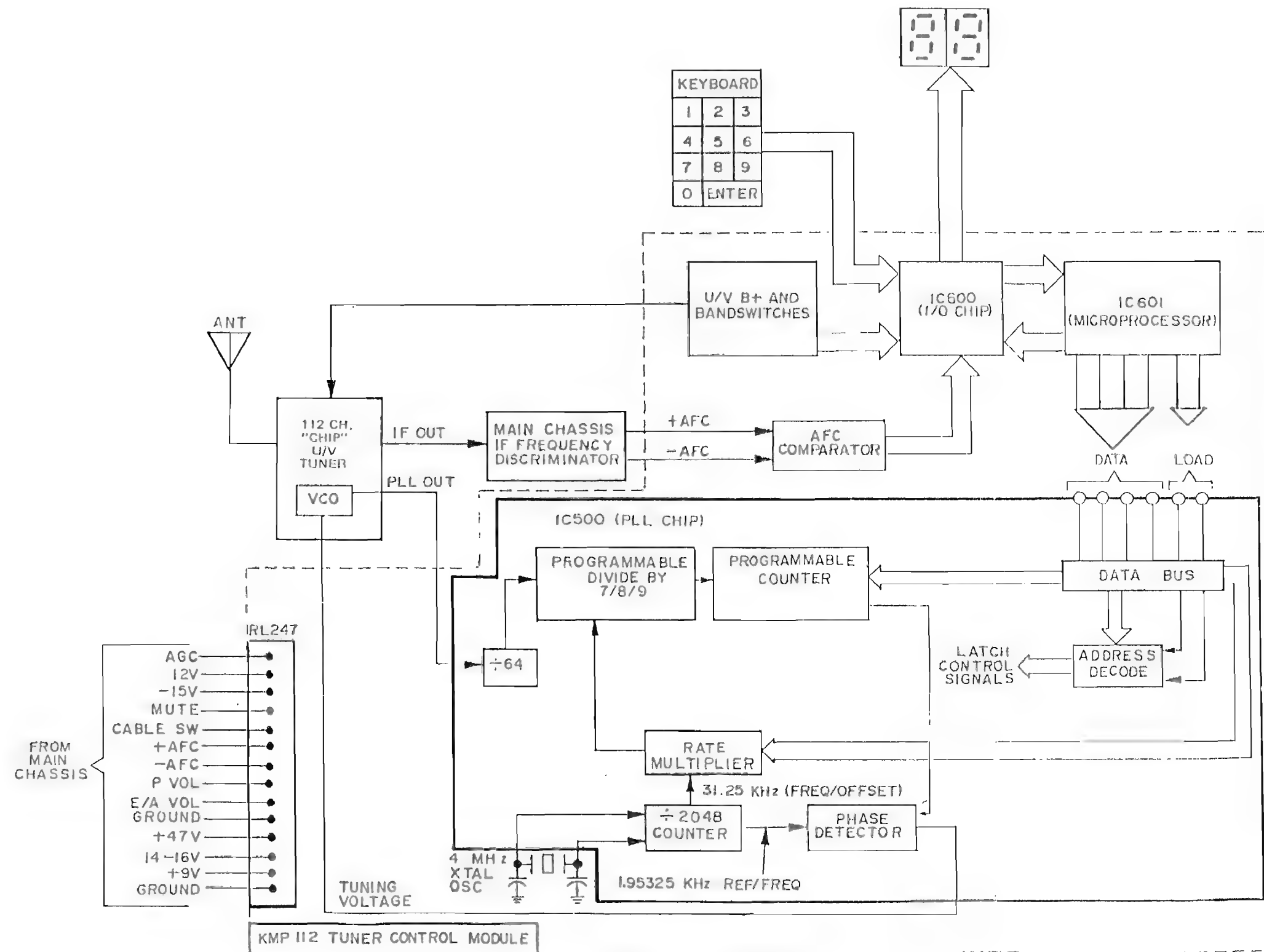


COMPONENT SIDE



COPPER SIDE

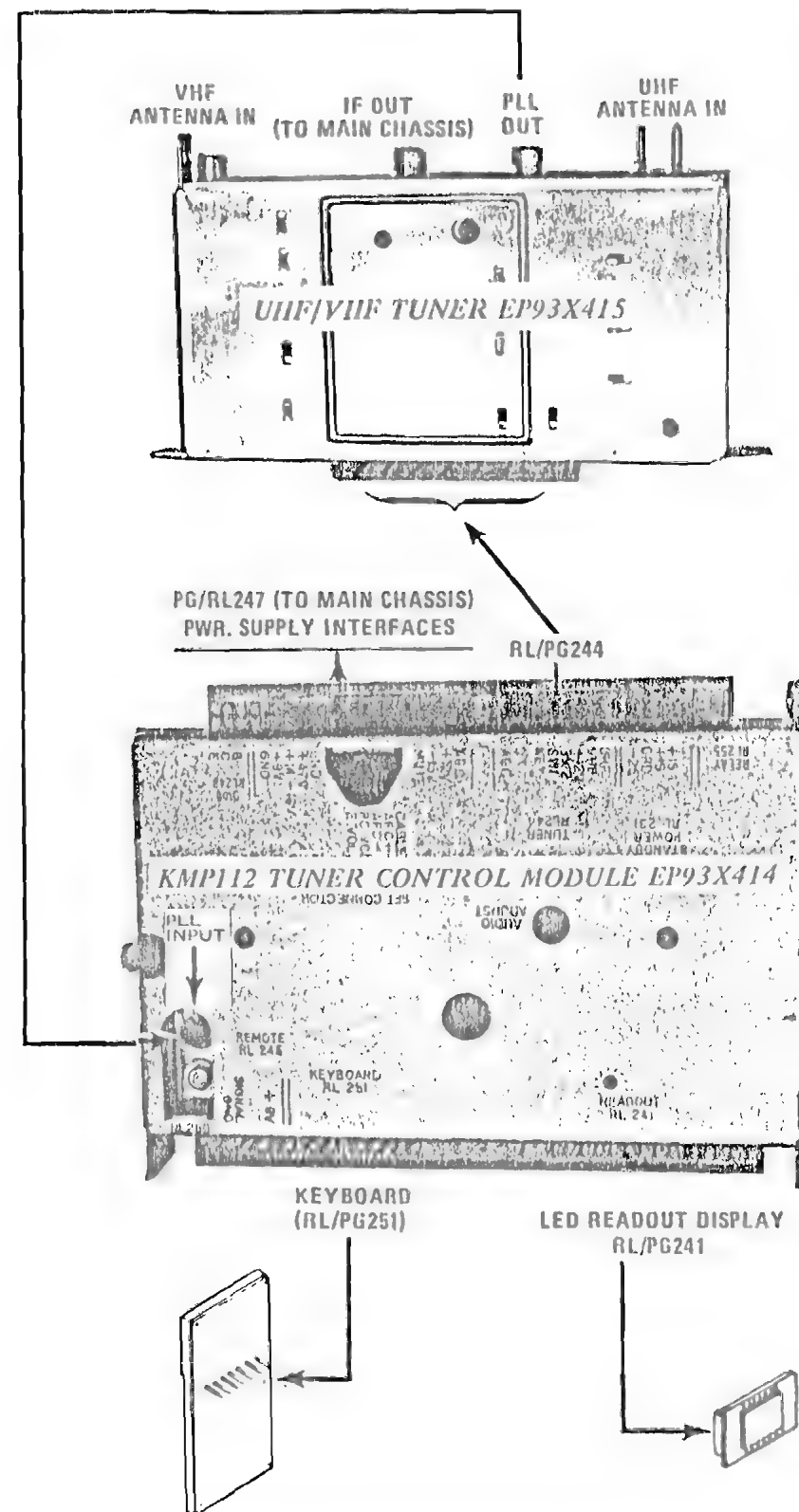
KMP112 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM



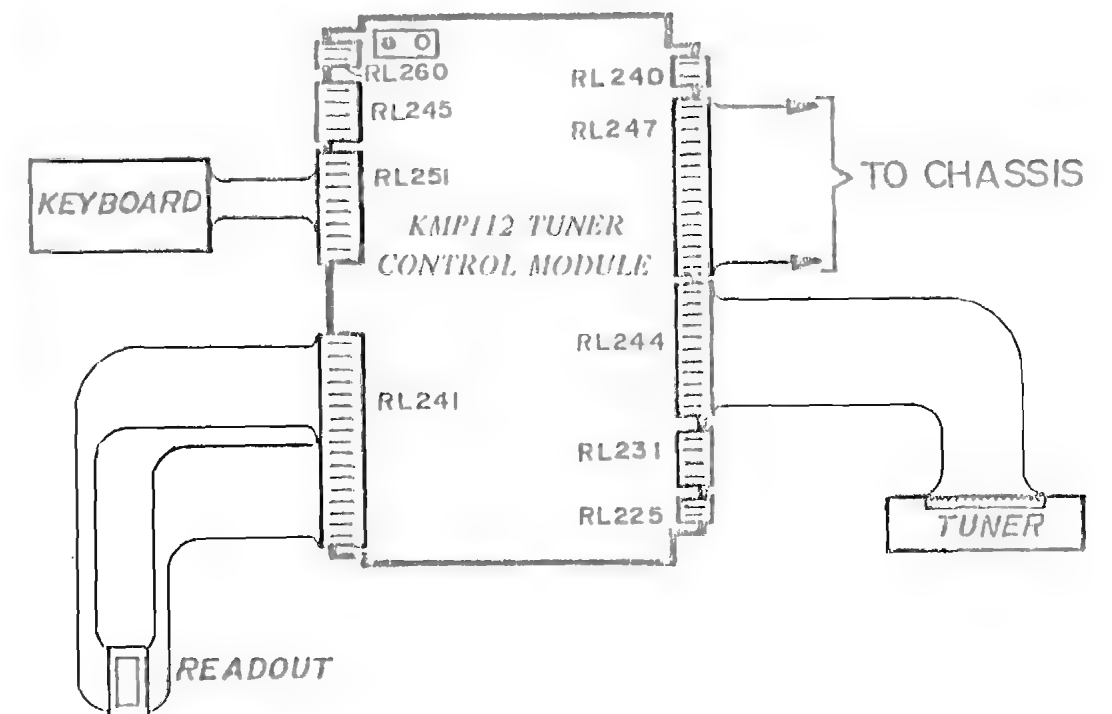
KMP112 TUNING SYSTEM BLOCK DIAGRAM

KMP112 SYSTEM COMPONENT ASSEMBLIES

KMP112 CONTROL BOARD PLUG LOCATIONS

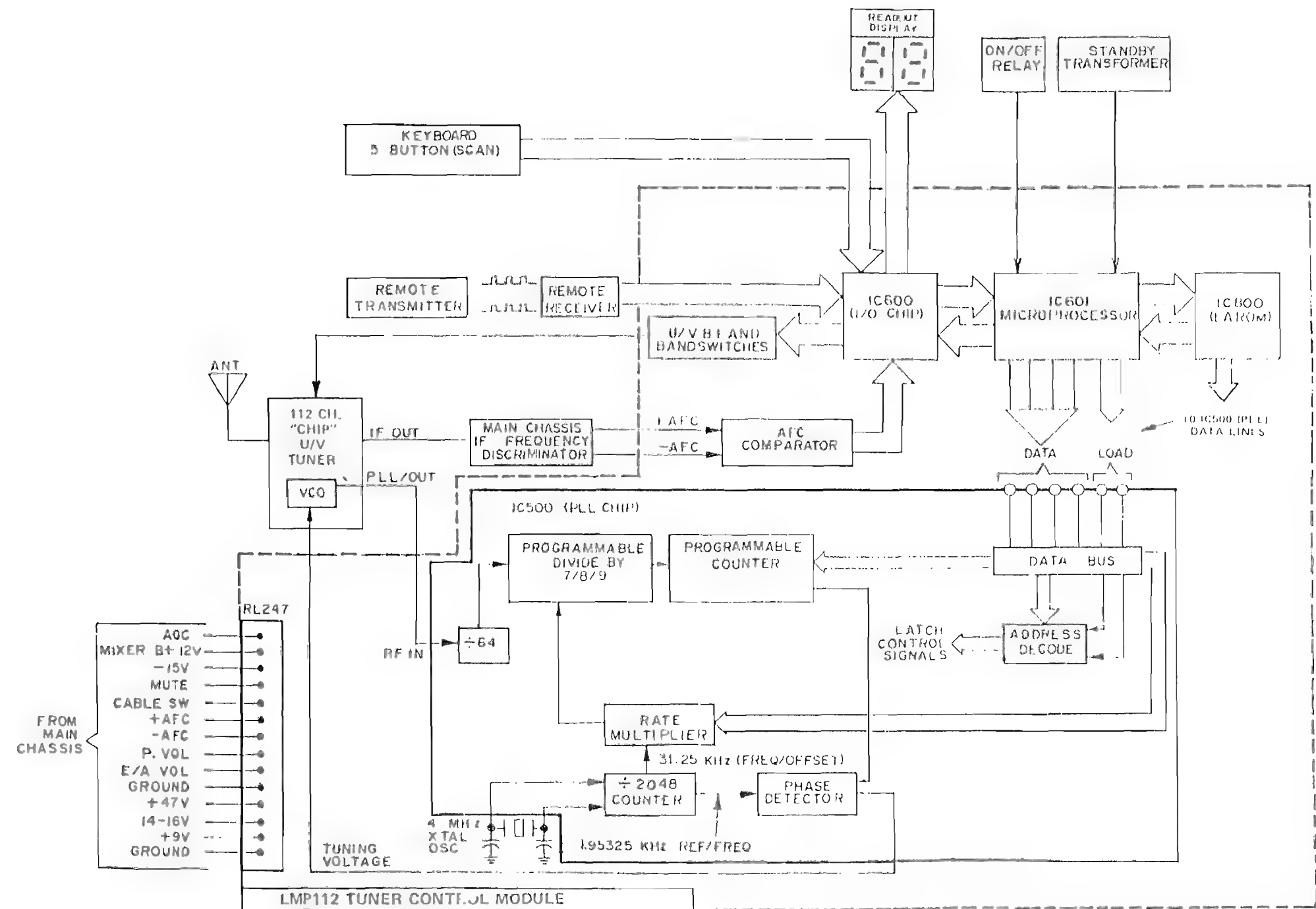


KMP112 SYSTEM COMPONENT ASSEMBLIES



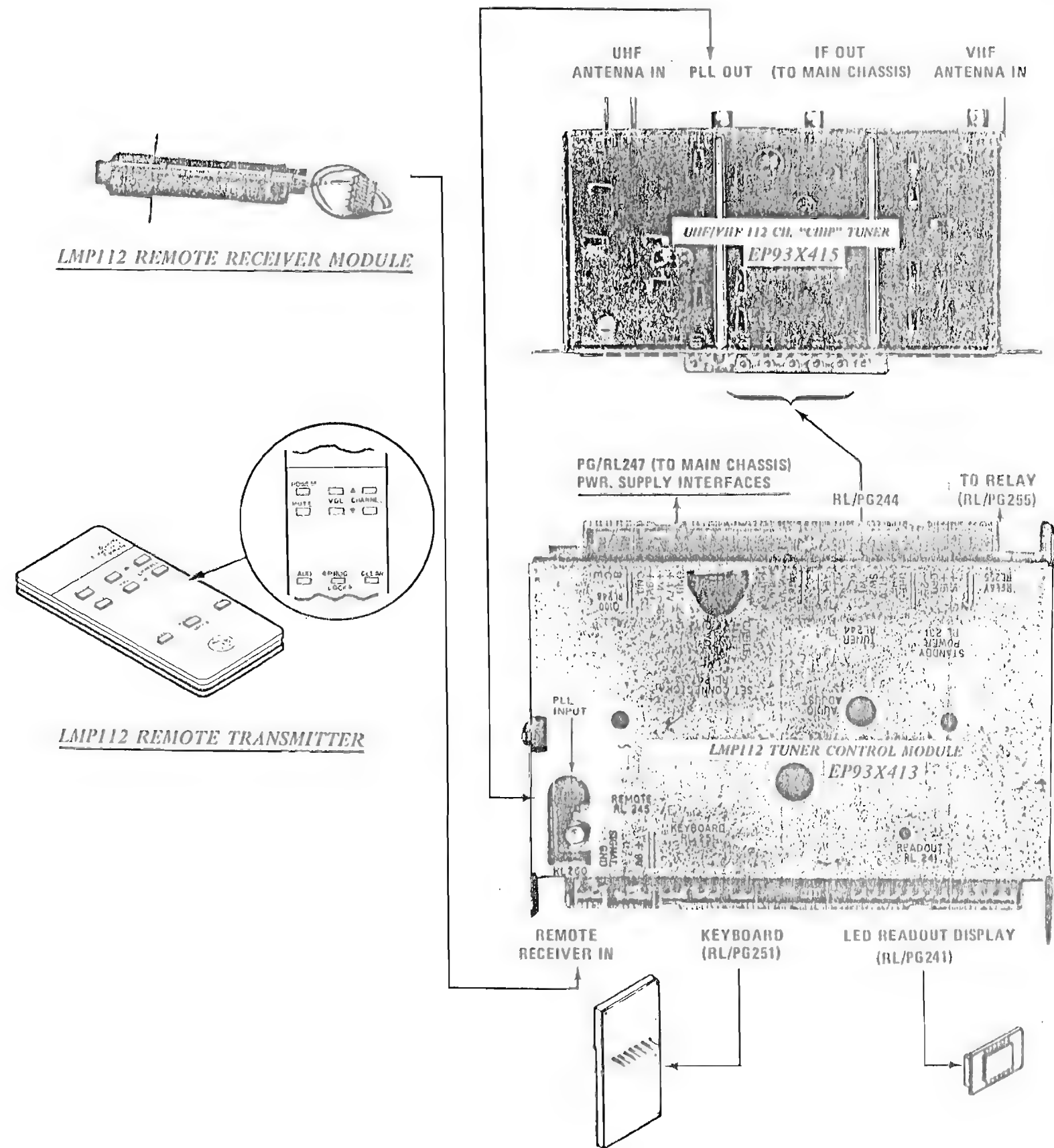
KMP112 CONTROL BOARD PLUG LOCATIONS

LMP112 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM



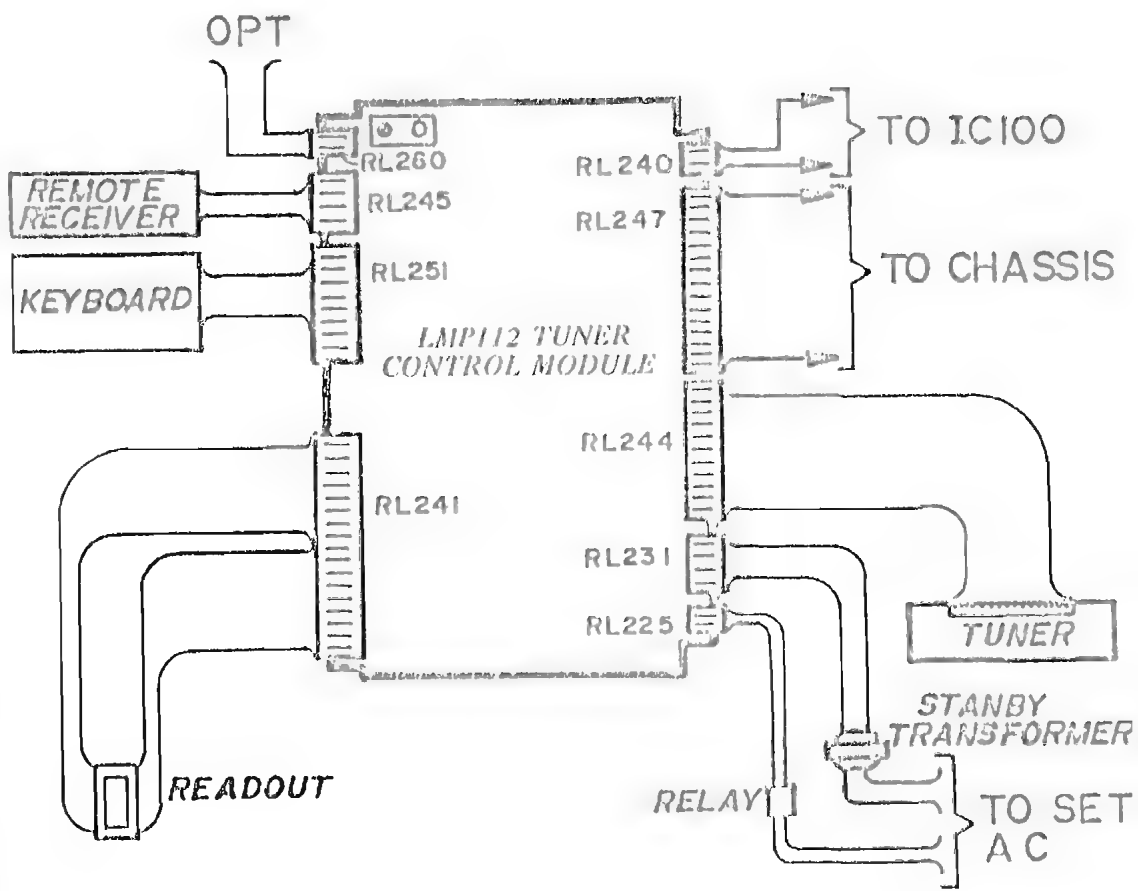
LMP112 ELECTRONIC TUNING SYSTEM BLOCK DIAGRAM

LMP112 ELECTRONIC TUNING SYSTEM COMPONENT ASSEMBLIES



25PC CHASSIS

LMP112 TUNER CONTROL BOARD PLUG CONNECTIONS

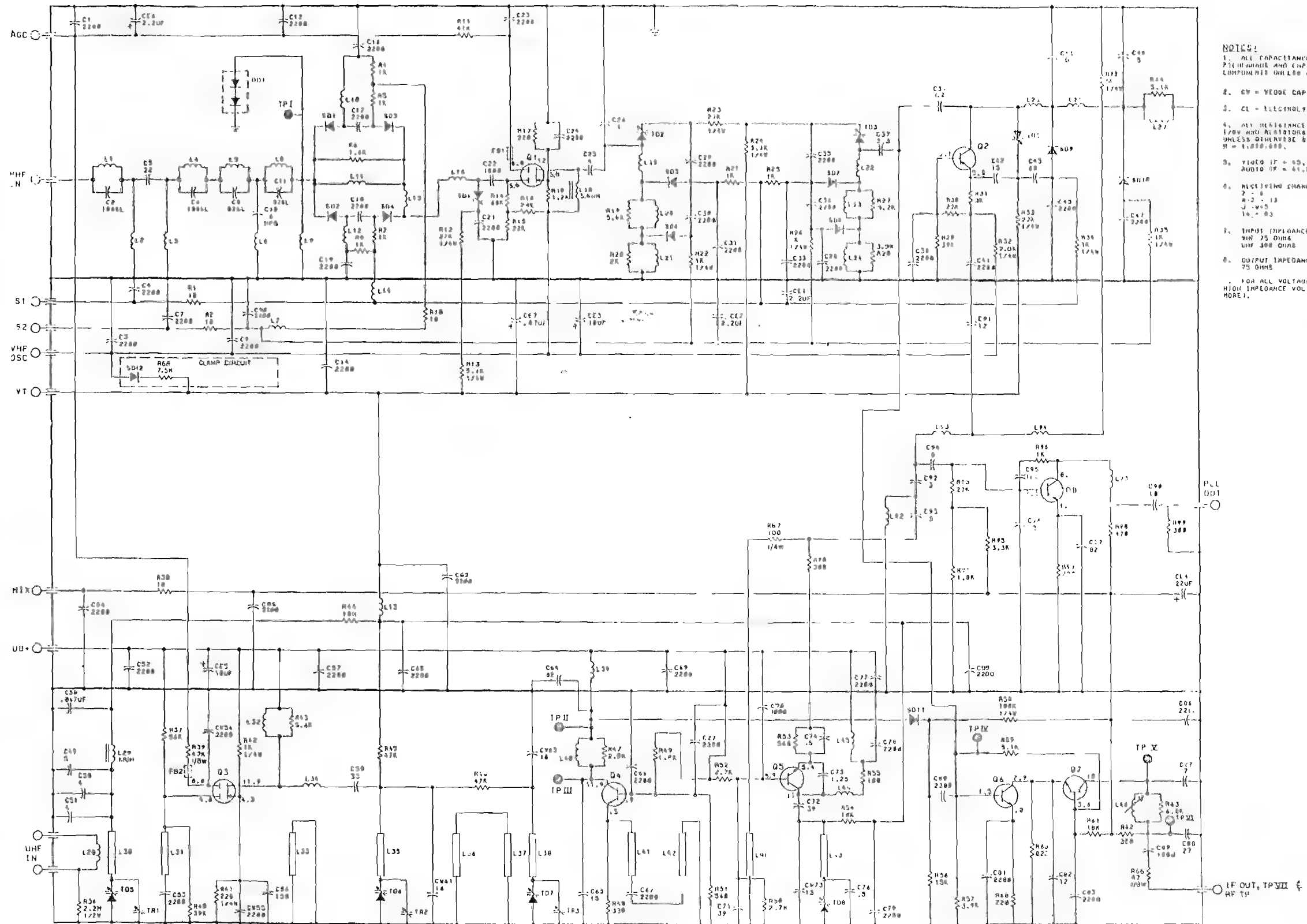


LMP112 TUNER CONTROL BOARD PLUG CONNECTIONS

UHF/VHF TUNER EP93X416

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.



- NOTES:**
1. ALL CAPACITANCE VALUES ARE IN PICOGRAMS AND CAPACITORS ARE CHIP COMPONENTS UNLESS OTHERWISE SPECIFIED. $\mu = 1,000,000$.
 2. CV = VEEDE CAP.
 3. CL = ELECTROLYTIC CAP.
 4. ALL RESISTANCE VALUES ARE IN OHMS, 1/8W AND RESISTORS ARE CHIP COMPONENTS UNLESS OTHERWISE SPECIFIED. $k = 1,000$ $M = 1,000,000$.
 5. VIDEO IF = 45.75 MHZ
AUDIO IF = 41.25 MHZ
 6. RECEIVING CHANNELS:
2 - 6
7 - 13
14 - 03
 7. INPUT IMPEDANCE:
VHF 75 OHMS
UHF 300 OHMS
 8. OUTPUT IMPEDANCE:
75 OHMS
- FOR ALL VOLTAGE MEASUREMENTS USE A HIGH IMPEDANCE VOLTMETER (10 M OHMS OR MORE).

NOTE: FOR REPAIRS REQUIRING PARTS, ORDER A REPLACEMENT TUNER.

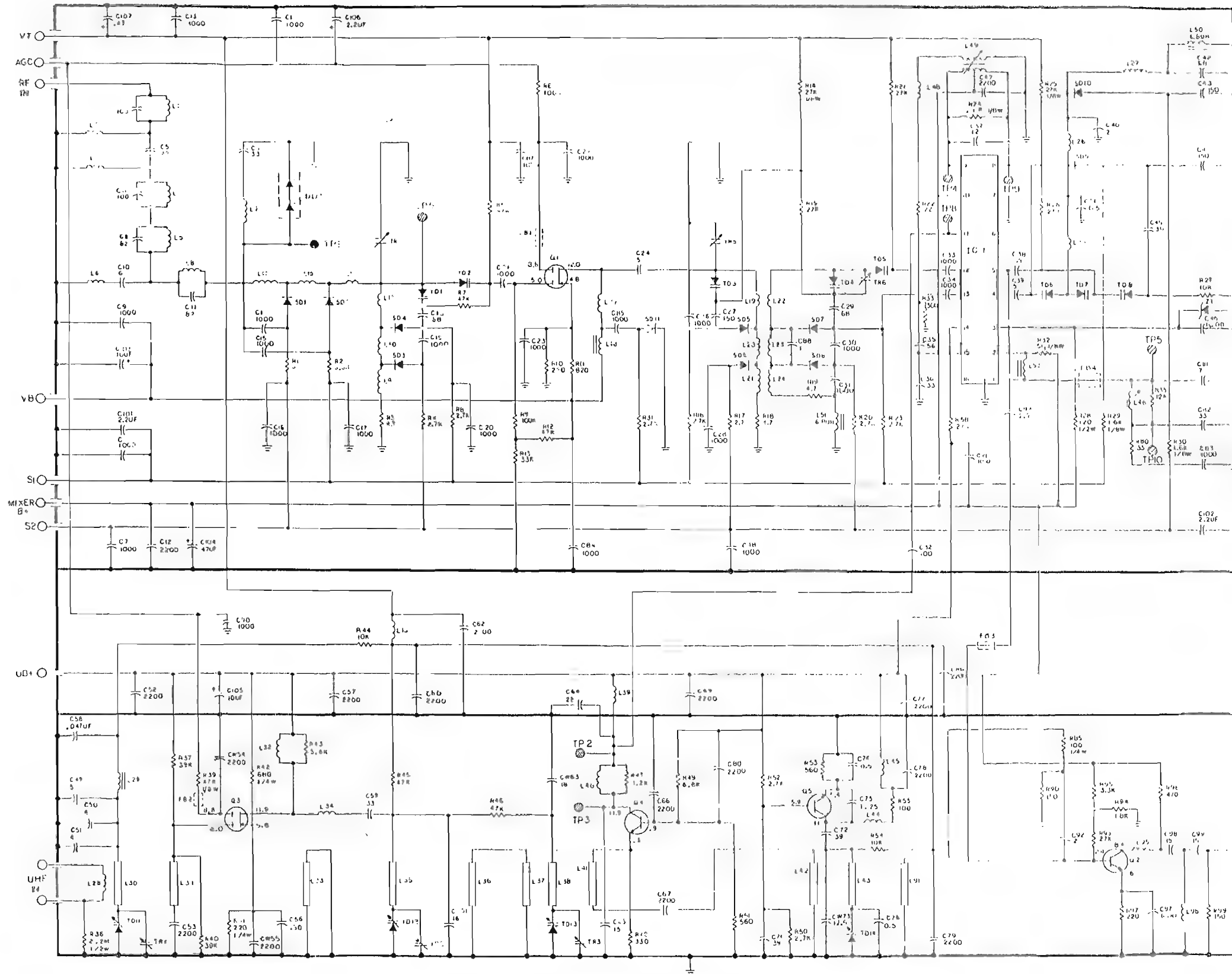
UHF/VHF 112 CHANNEL "CHIP" TUNER SCHEMATIC DIAGRAM

UHF/VHF TUNER (EP93X502)

PC CHASSIS

IMPORTANT SAFETY NOTICE

Product safety should be considered when component replacement is made in any area of a receiver. The (•) beside a part in the parts list and the shaded areas of the schematic diagram designate components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (•) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.



NOTES:

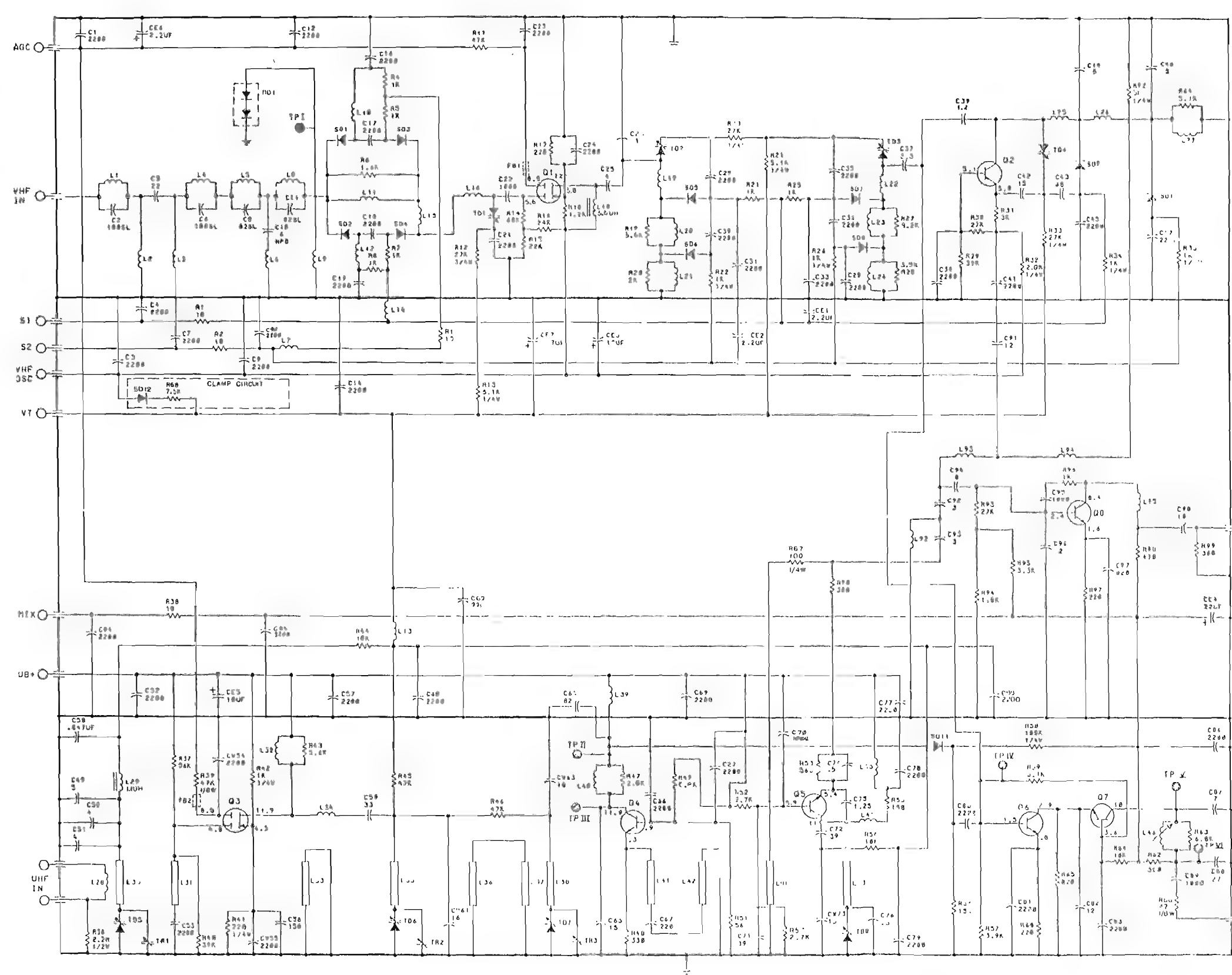
1. ALL CAPACITANCE VALUES ARE IN PICOFARADS UNLESS OTHERWISE SPECIFIED.
2. C - MICROFARADS
3. ALL RESISTANCE VALUES ARE IN OHMS UNLESS OTHERWISE SPECIFIED.
4. VIDEO U - 0.75MHz AUDIO IF - 4.5MHz
5. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
6. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
7. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
8. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
9. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
10. DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.

NOTE: FOR REPAIRS REQUIRING PARTS, ORDER A REPLACEMENT TUNER.

UHF/VHF 130 CHANNEL "CHIP" TUNER SCHEMATIC DIAGRAM

UHF/VHF TUNER (EP93X539)

IMPORTANT SAFETY NOTICE:
Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact catalog parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.



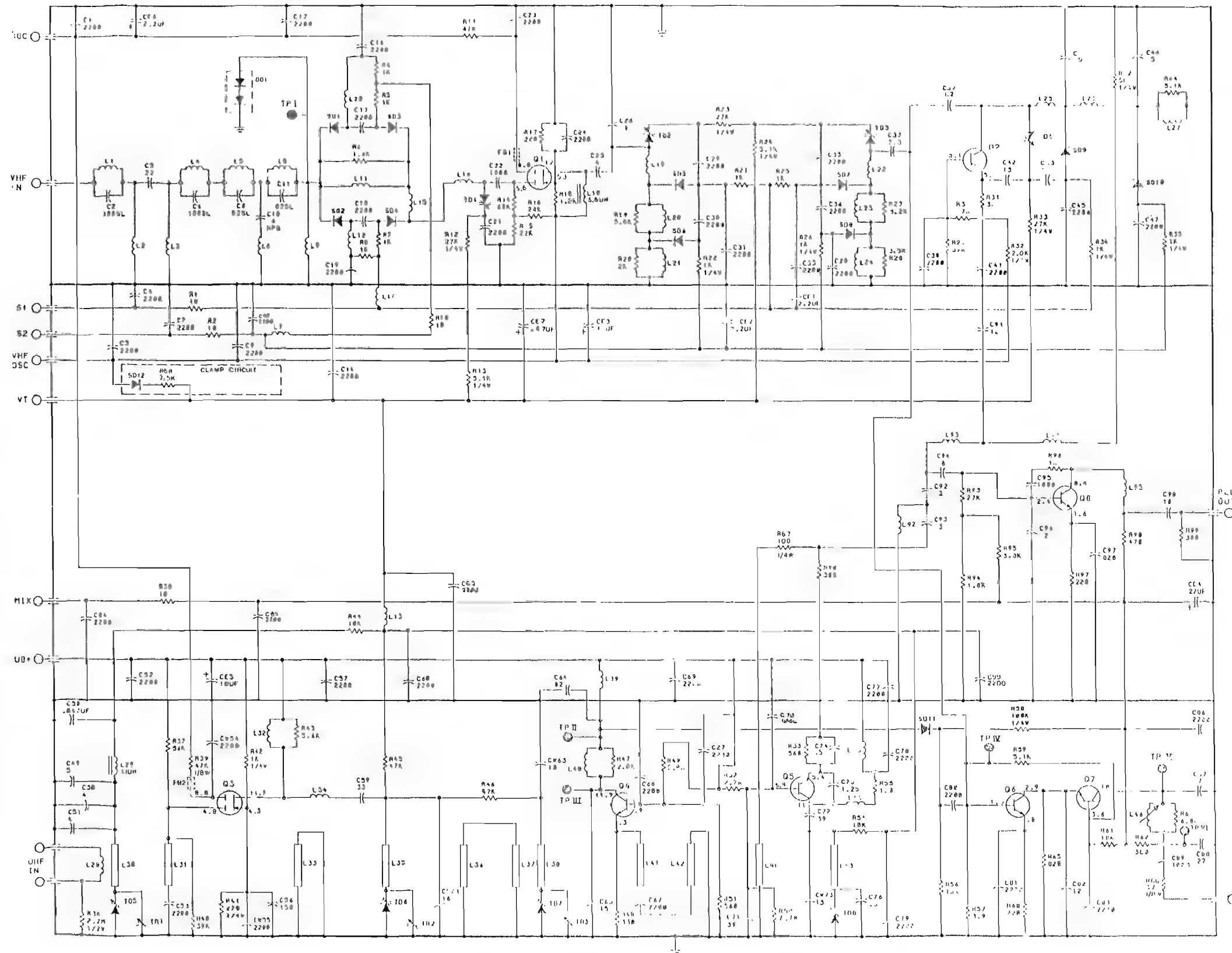
- NOTES:**
- 1. ALL CAPACITANCE VALUES ARE IN PICOFARADS AND CAPACITORS ARE COMPONENTS UNLESS OTHERWISE SPECIFIED.
 - 2. CW = WIDE BAND.
 - 3. CE = ELECTROLYTIC CAP.
 - 4. ALL RESISTANCE VALUES ARE IN OHMS AND RESISTORS ARE CHIP UNLESS OTHERWISE SPECIFIED. M = 1,000,000.
 - 5. VIDEO IF = 45.75 MHZ AUDIO IF = 41.25 MHZ
 - 6. RECEIVING CHANNELS: 2 - 8 A-2 - 13 J - 100 F - 0.5
 - 7. INPUT IMPEDANCE: VHF 75 OHMS UHF 300 OHMS
 - 8. OUTPUT IMPEDANCE: 75 OHMS
 - 9. FOR ALL VOLTAGE MEASUREMENTS USE HIGH IMPEDANCE VOLTMETER (10 MORE).

NOTE: FOR REPAIRS REQUIRING PARTS, ORDER A REPLACEMENT TUNER.

UHF/VHF 112 CHANNEL "CHIP" TUNER SCHEMATIC DIAGRAM

UHF/VHF TUNER (EP93X539)

IMPORTANT SAFETY NOTICE:
Product safety should be considered when component replacement is made in any area of a receiver. The (*) beside a part in the parts list and the shaded areas of the schematic diagram designates components in which safety can be of special significance. It is particularly recommended that exact cataloged parts be used for replacement of components which are designated by a (*) in the parts list and the shaded areas on the schematic diagram. Use of substitute replacement parts which do not have the same safety characteristics as recommended in factory service information may create Shock, Fire or other hazards, or excessive X-Radiation.

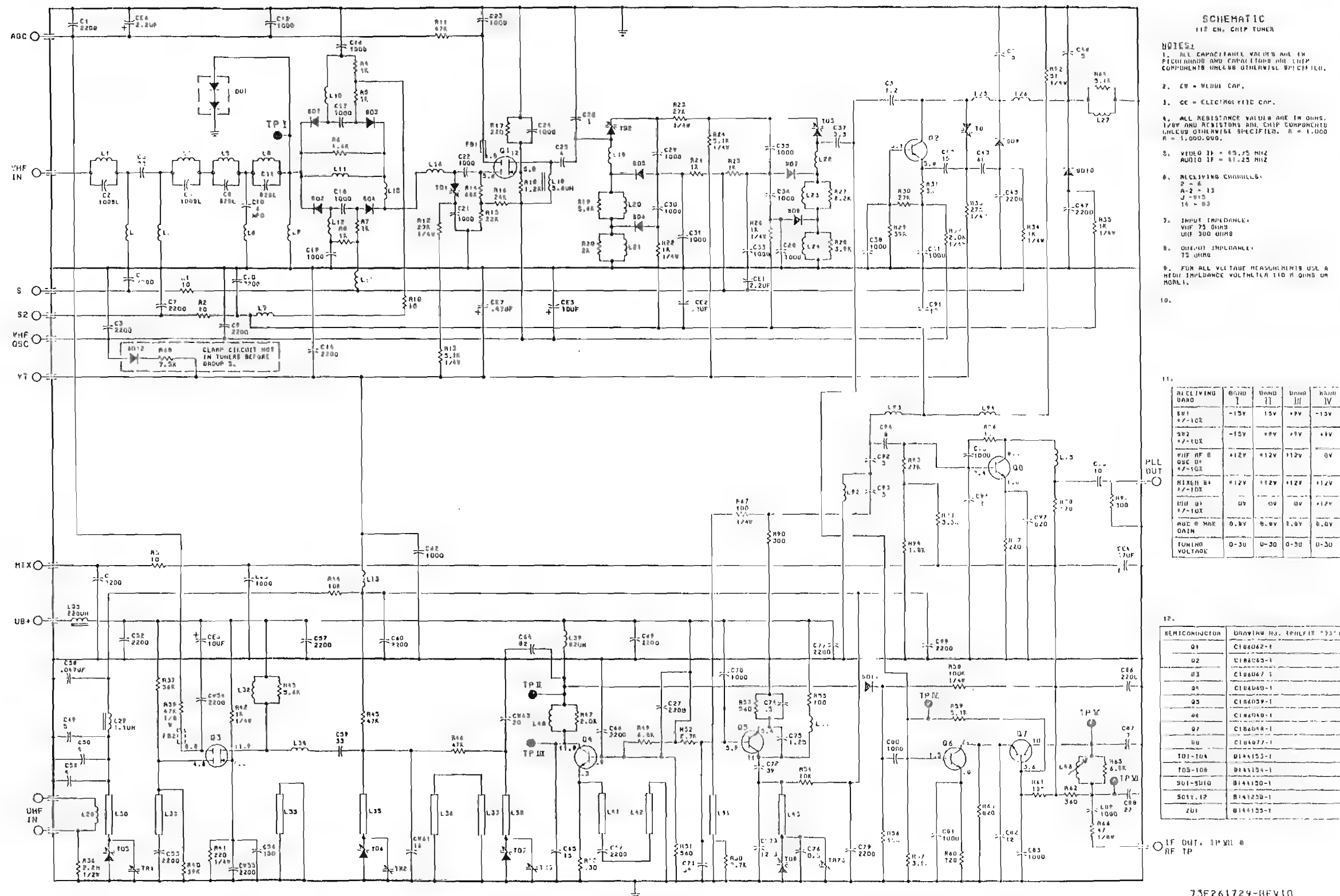


- NOTES:**
1. ALL CAPACITANCE VALUES ARE IN PICO FARADS AND CAPACITORS ARE CHIP COMPONENTS UNLESS OTHERWISE SPECIFIED.
 2. CW = MEDUL CAP.
 3. C1 = ELECTROLYTIC CAP.
 4. ALL RESISTANCE VALUES ARE IN OHMS, 1/4W AND RESISTORS ARE CHIP COMPONENTS UNLESS OTHERWISE SPECIFIED. R = 1.000 M = 1,000,000.
 5. VIDEO IF = 45.75 MHz AUDIO IF = 41.25 MHz
 6. RECEIVING CHANNELS:
2 - 6
8 - 13
14 - 19
20 - 25
 7. INPUT IMPEDANCE:
VHF 75 OHMS
UHF 50 OHMS
 8. OUTPUT IMPEDANCE:
75 OHMS
 9. FOR ALL VOLTAGE MEASUREMENTS USE A HIGH IMPEDANCE VOLTMETER (10 M OHMS OR MORE).

NOTE: FOR REPAIRS REQUIRING PARTS, ORDER A REPLACEMENT TUNER.

UHF/VHF 112 CHANNEL "CHIP" TUNER SCHEMATIC DIAGRAM

UHF/VHF TUNER EP93X575



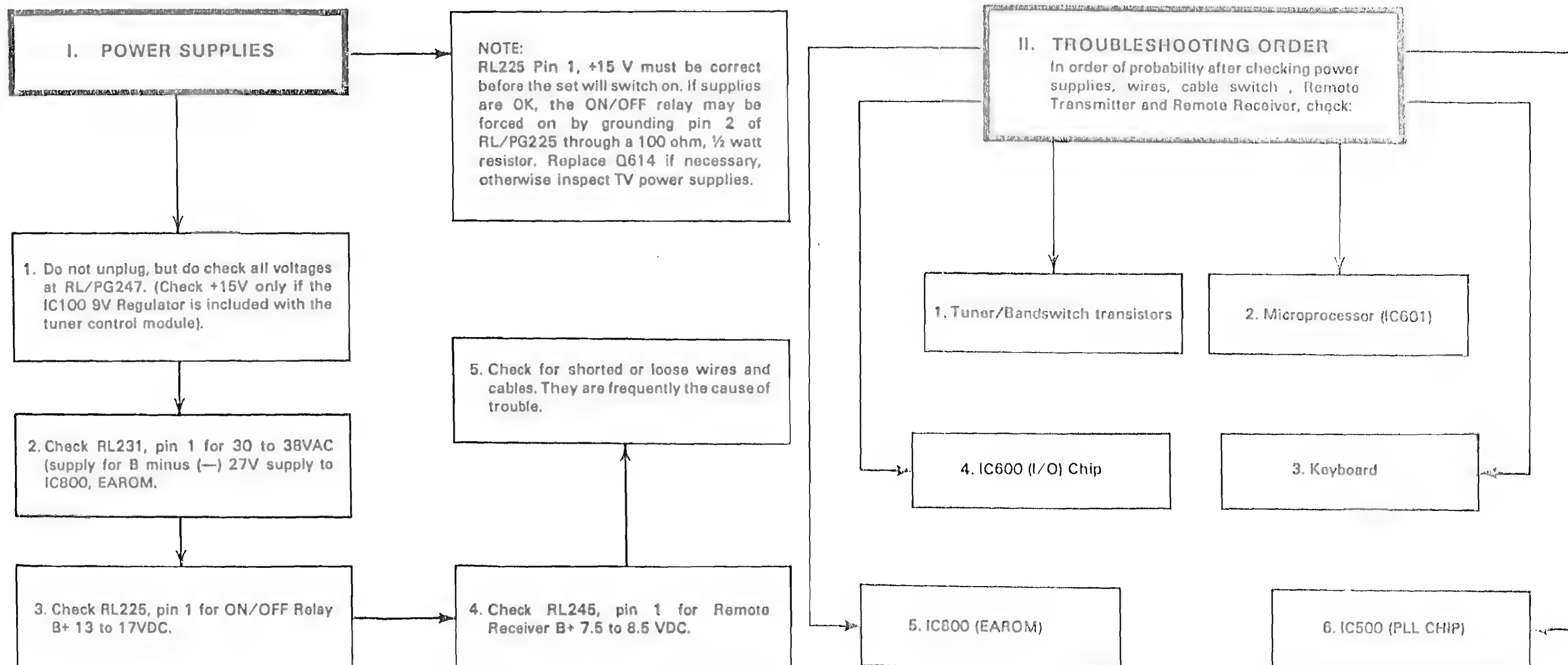
PC CLASSIS



COPPER (AND "CHIP" COMPONENTS) SIDE

112/130 CHANNEL ELECTRONIC TUNING SYSTEM TROUBLESHOOTING FLOW CHARTS

General: To help troubleshoot the 112/130 channel electronic tuning systems more efficiently, most frequent symptoms are listed, as well as module functions and troubleshooting information. Follow the flow of information, however, skip sections not applicable to the system under repair.



III. CATEGORIZED SYMPTOMS**1. KEYBOARD INOPERATIVE/HAS RASTER**

Unplug set for 10 seconds to allow microprocessor to reset.

2. NO REMOTE CONTROL/KEYBOARD OK

(Note: LMP/MP 5-button keyboard follows favorite/sequential action of transmitter).

Check Transmitter

3. DARK RASTER/CHANNEL DISPLAY OK

Check U/V Tuner

4. SNOWY RASTER

(UHF or VHF only, VHF Hi/Lo or Cable Only).

Check Bandswitch Transistors

5. NO CHANNEL/NO KEYBOARD/NO REMOTE

(With Relay Forced On)

Check Microprocessor (IC601)

6. NO LAST OR FAVORITE CHANNEL MEMORY

(During Power Failure)

Check IC800

7. CHANNEL DISPLAY OK/CHANNELS OFF FREQUENCY

Check Bandswitch Voltage, if OK, Check IC500 (PLL Chip).

8. NO PICTURE/CHANNEL DISPLAY INCORRECT

If the picture doesn't appear on the screen and the channel display is incorrect, the problem is probably in the keyboard, IC600 or the Microprocessor.

9. PICTURE OK/CHANNEL DISPLAY INCORRECT

If the picture appears on the screen but the display is incorrect the problem is probably in the Microprocessor (IC601), I/O (IC600), or the LED display unit.

10. NO PICTURE/CHANNEL DISPLAY OK

If the display is OK, but the picture doesn't appear on the screen, the trouble could be in the UHF/VHF tuner, Video IF, Standby Supply, Microprocessor or the PLL (IC500), and associated circuitry.

UHF/VHF Tuner Check

Measure tuning voltage at RL244, Pin 2, while entering the following Channels: CH.1=28VDC, 6=20VDC, 13=19VDC, 33=6.5VDC and 82=26VDC. The presence of these voltages indicate that the PLL (IC500) output is working. Enter in Channel 1 (28V at RL244, Pin 2) and connect one end of a potentiometer (10K or more) to the tuning voltage terminal. Connect the center-tap of the pot to chassis ground. Carefully adjust the pot to tune in a station. If a station cannot be tuned in, the UHF/VHF tuner is probably defective.

If a station can be tuned in with the potentiometer, the problem could be the Microprocessor (IC601), or the PLL (IC500).

NO COLOR / ABNORMAL COLOR

DOES THE SET HAVE A VIR OR COLOR MONITOR MODULE?

YES

TURN THE VIR OR COLOR MONITOR SWITCH OFF. CAN NORMAL COLOR BE OBTAINED?

YES

USE AN OSCILLOSCOPE TO CHECK FOR HORIZONTAL FREQUENCY KEYING PULSES (2VPP) ON THE COLLECTOR Q300. ARE THEY THERE?

NO

YES

CHECK Q300 AND ITS ASSOCIATED CIRCUITRY Q300, Y382, AND Y370 SHOULD MEASURE AT LEAST 10:1 FRONT TO BACK, IN CIRCUIT.

REMOVE THE VIR OR COLOR MONITOR MODULE. USE CLIP LEADS TO RESTORE JUMPER WIRE CONNECTIONS J1, J2, AND J3. CAN NORMAL COLOR BE OBTAINED?

YES

TURN THE VIR OR COLOR MONITOR SWITCH BACK ON. CHECK THE ADJUSTMENT OF THE PREFERENCE CONTROLS (VIR ONLY). IF NORMAL COLOR IS NOT RESTORED, REPLACE THE VIR OR COLOR MONITOR MODULE.

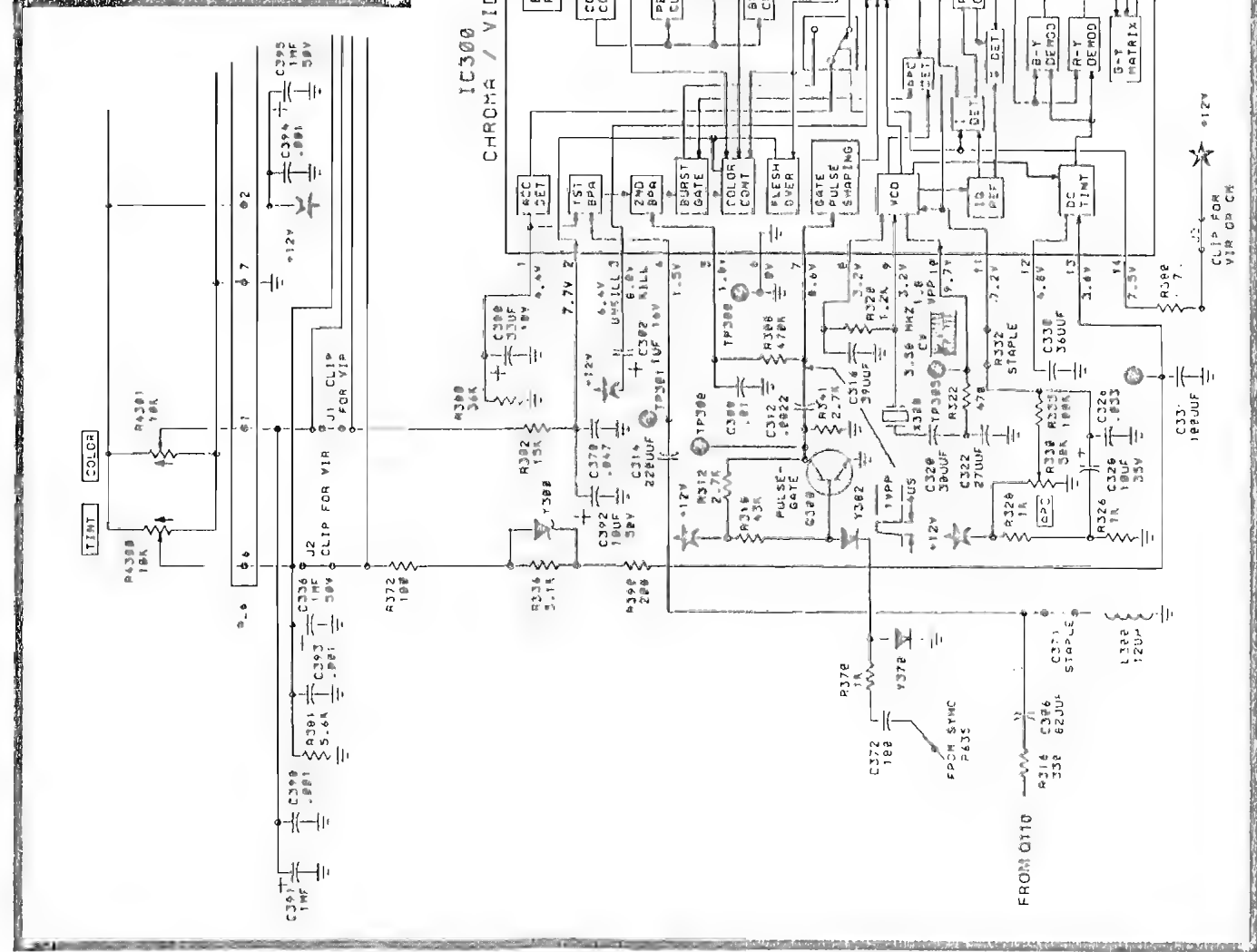
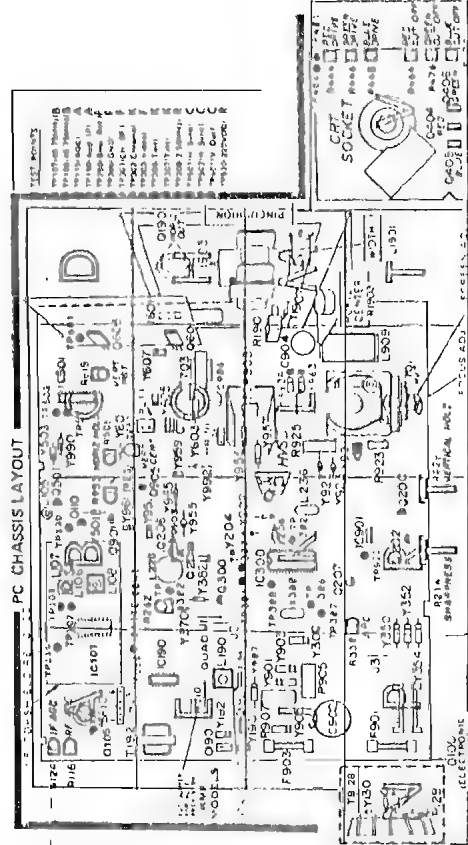
REPLACE THE VIR OR COLOR MONITOR MODULE.

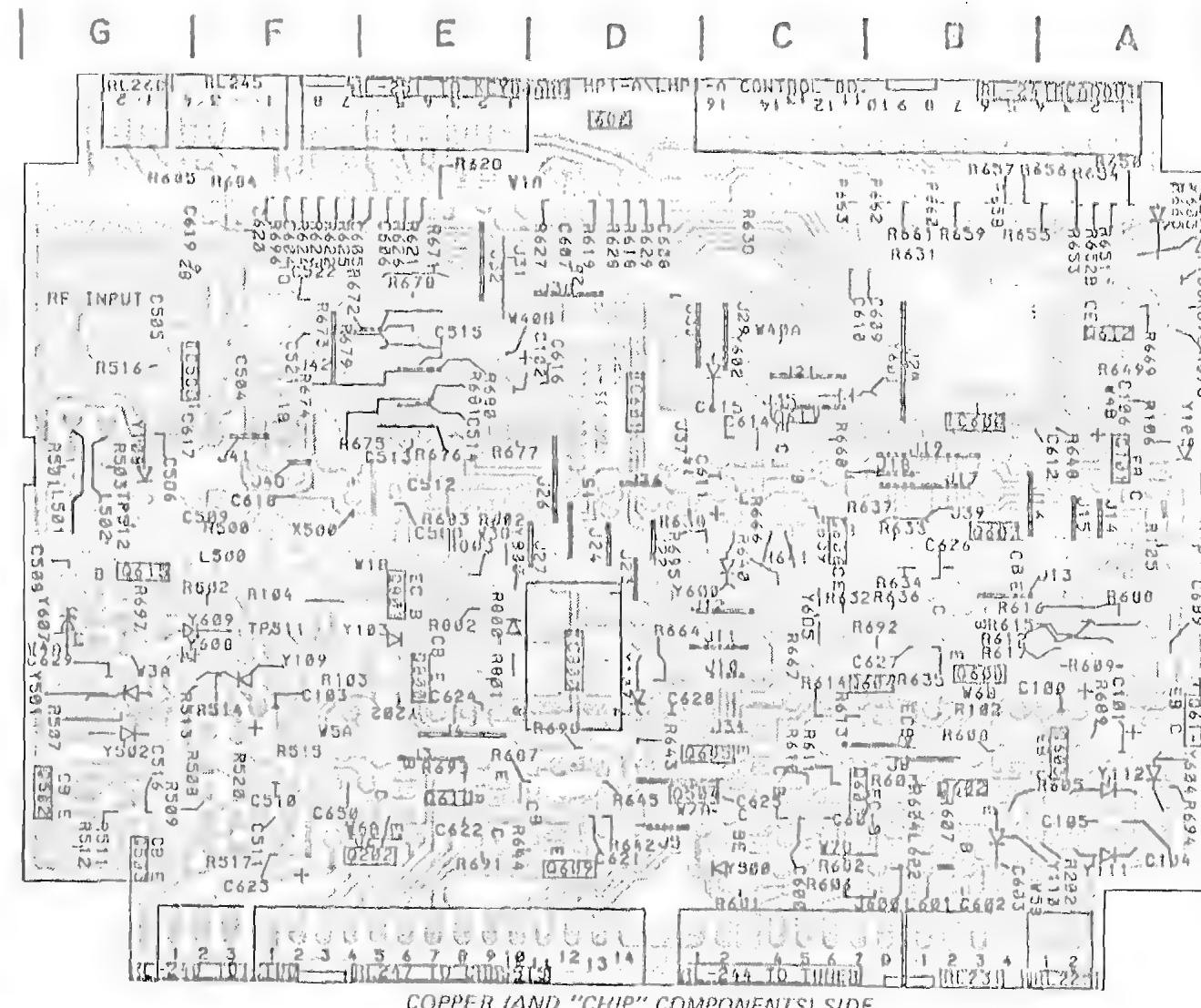
F P

*J3 IS CUT WHEN THE SET USES COLOR MONITOR.
*J1, J2, AND J3 IS CUT WHEN THE SET USES VIR.

MEASURE THE DC VOLTAGES ON IC300 AS SHOWN BELOW. IF ANY VOLTAGES ARE INCORRECT TRY TO DETERMINE THE CAUSE. IF NO SUCCESS REPLACE IC300.

K





RESISTORS	CAPACITORS	C628-D4 C629-G4 C650-F5	TRANSISTORS	COILS L500-F3 L501-G3 L502-G3	TEST POINTS 1P507-G2 1P508-G3 1P511-F4 1P512-G3	J22-D3 J23-D3 J24-D3 J25-D3 J26-D3 J28-D2 J29-C2 J30-D2 J31-E2 J32-E1 J34-C4 J35-C2 J36-D3 J38-D2 J39-B3 J600-B5 J605-C4
R102-B4 R103-F4 R104-F3 R105-A3 R315-F4 R500-F3 R508-G4 R520-F4 R602-C5 R607-B5 R609-A4 R612-A4 R615-A4 R630-C1 R637-B3 R640-C3 R649-A2 R667-C4 R671-E2 R672-E2 R673-E2 R674-E2 R675-E2 R676-E2 R688-A3	C100-A4 C101-A4 C102-E2 C103-F4 C508-G3 C510-F4 C511-F5 C516-G4 C689-A3 C600-C5 C601-C5 C604-F1 C605-E1 C606-E1 C607-D1 C608-D1 C609-B2 C611-C3 C615-C2 C619-G1 C621-D5 C622-E5 C623-F5 C626-G3 C627-B4	DIODES Y103-E4 Y105-A2 Y106-A2 Y107-D4 Y108-G3 Y109-F4 Y110-B5 Y111-A5 Y112-A4 Y202-E4 Y500-C5 Y501-G4 Y502-G4 Y600-C3 Y601-C2 Y602-C2 Y603-A1 Y604-A4 Y607-G3 Y608-F4 Y609-G4 Y800-E4	A101-A3 Q202-E5 Q502-G4 Q503-G5 Q601-B4 Q602-B4 Q603-B4 Q604-B4 Q605-C4 Q606-B3 Q607-B3 Q608-B4 Q609-D5 Q610-E4 Q611-C3 Q612-A2 Q614-A4 Q615-G3 Q800-E4 Q801-E3	INTERGRATED CIRCUITS IC500-F1 IC600-B2 IC601-D2 IC800-D3	JUMPERS J2-E5 J3-E4 J3-C3 J4-E4 J5-D5 J6-D5 J7-D4 J8-B4 J9-B4 J10-C4 J11-C4 J13-B3 J14-A3 J15-A3 J16-B3 J17-B3 J18-B3 J19-B3 J20-B2 J21-C2	
			CRYSTAL X500-F3	RECEPTACLES RL225-A5 RL231-B5 RL240-F5 RL241-A1 RL244-C5 RL245-F1 RL247-D5 RL251-D1 RL260-G1 RL298-A1		

ABNORMAL GRAY SCALE

V REMOVE THE POWER FROM THE RECEIVER. REMOVE THE PICTURE TUBE SOCKET. RESTORE THE POWER AND MEASURE THE VOLTAGES ON PINS 6, 8, AND 11 OF THE PICTURE TUBE SOCKET. THE VOLTAGES SHOULD ALL VARY FROM ABOUT +75VDC TO ABOUT +225VDC AS THE BRIGHTNESS AND PICTURE CONTROLS ARE ADJUSTED. ARE THESE VOLTAGES NORMAL?

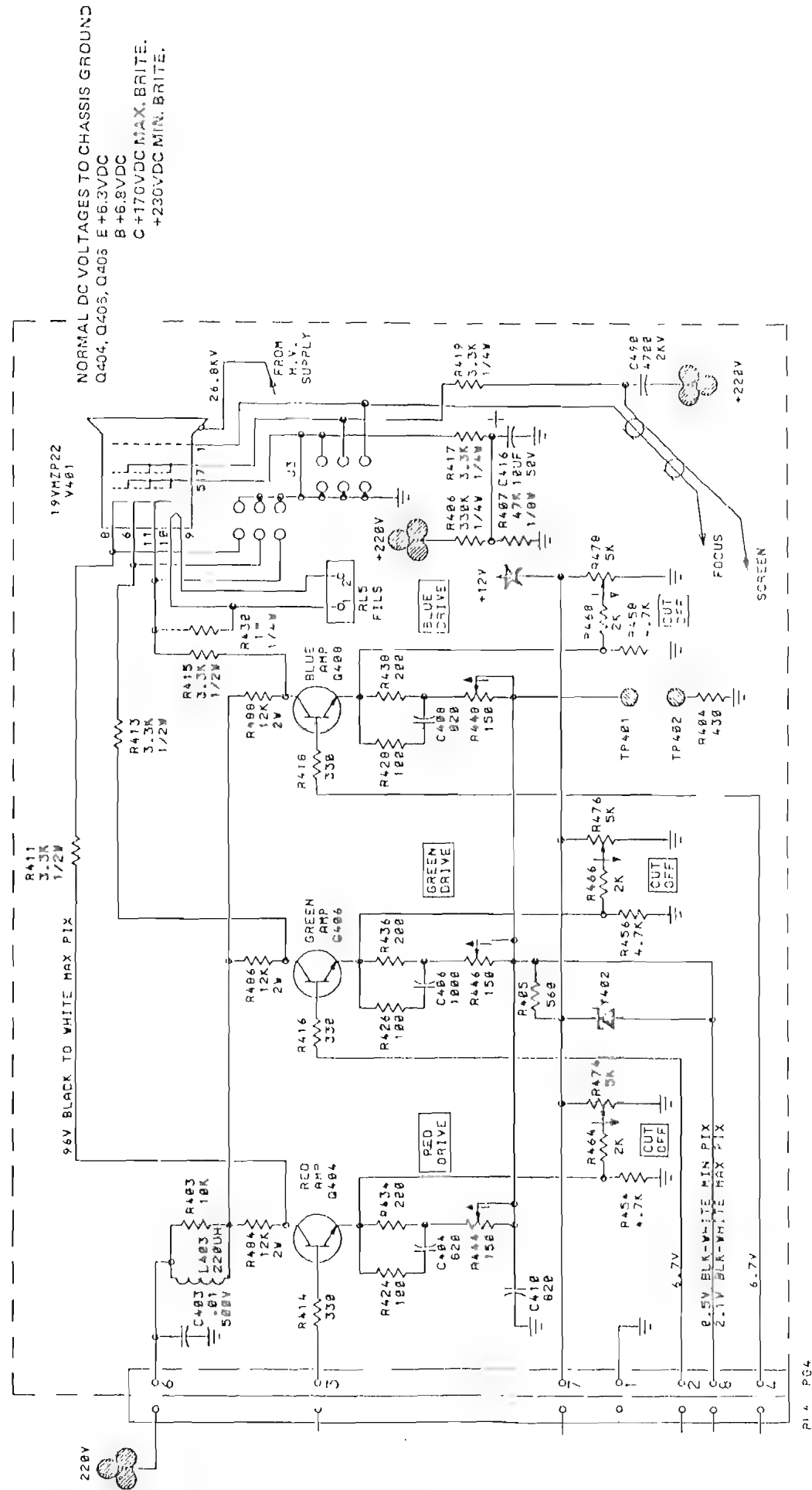
YES NO

REMOVE POWER FROM THE RECEIVER. RESTORE THE PICTURE TUBE SOCKET. REMOVE PLUG PG4. RESTORE POWER TO THE RECEIVER. MEASURE THE VOLTAGES AT PINS 15, 16, AND 17 OF IC300. ARE ALL THREE VOLTAGES $+6.7\text{VDC} \pm 10\%$?

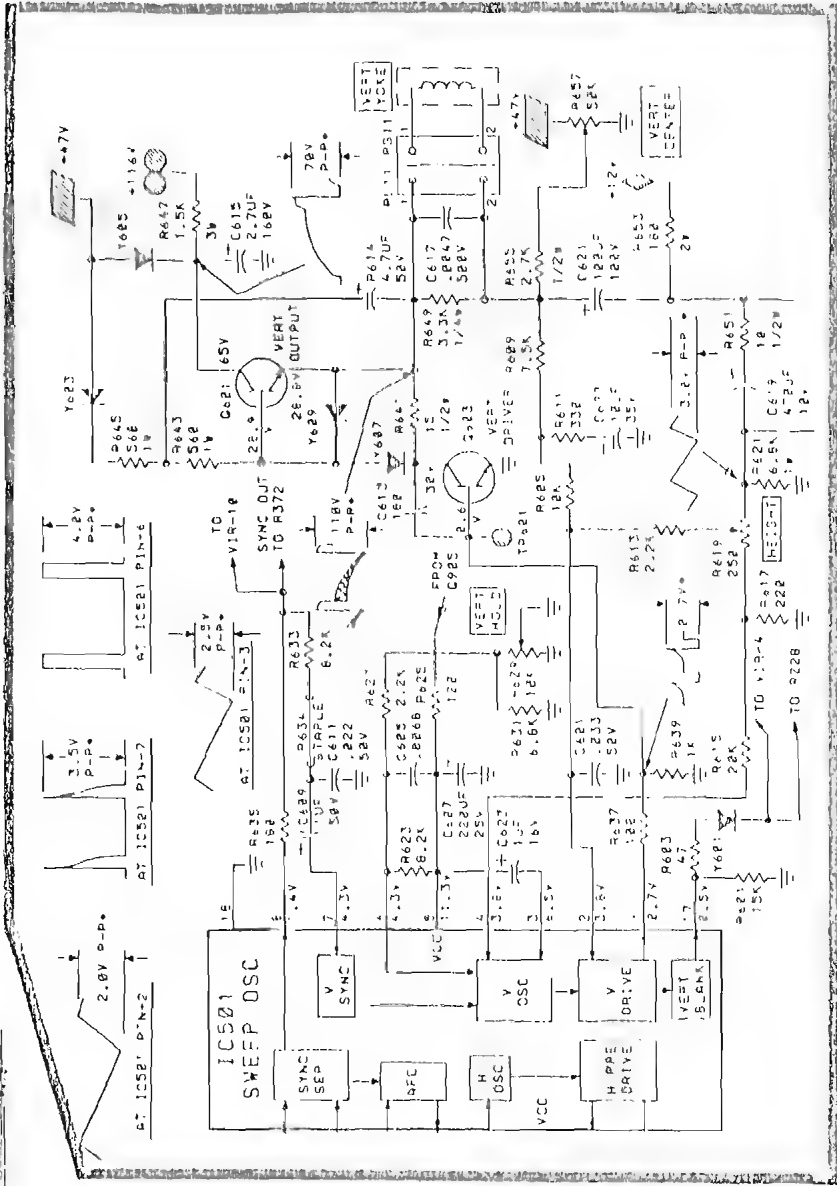
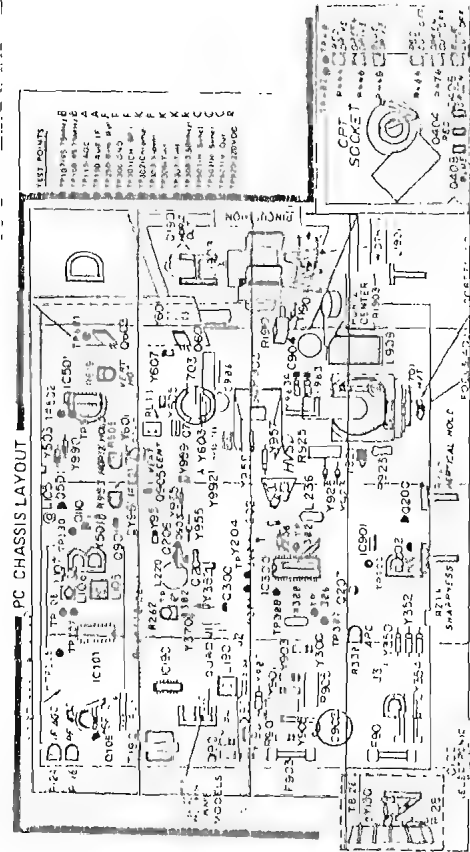
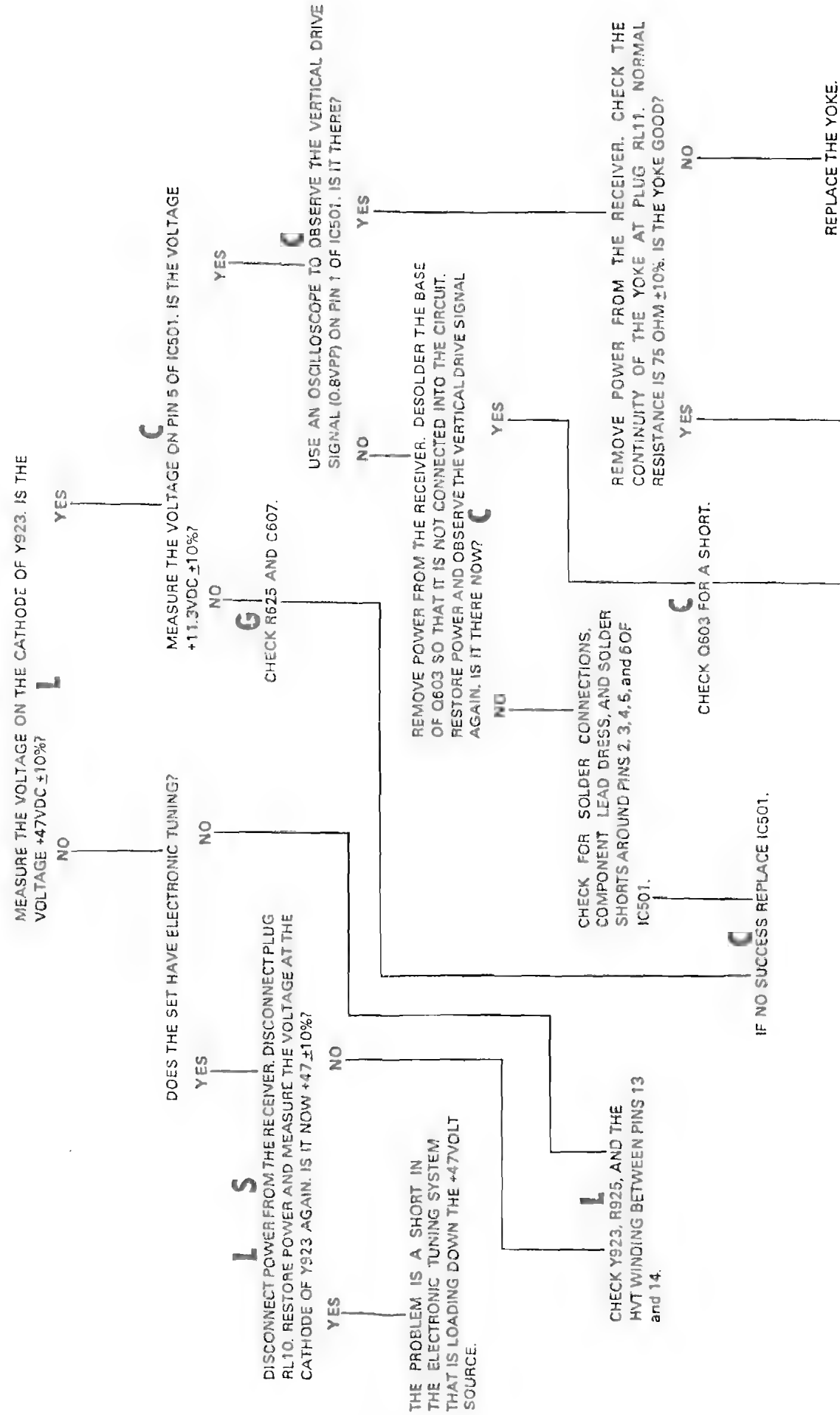
if Q17
Q18
T O F
T O F
T O F

CHECK Y350, Y352, AND Y354. THEIR FRONT TO BACK RESISTANCE SHOULD BE AT LEAST 10.1 IN CIRCUIT. IF THE DIODES ARE GOOD, CHECK FOR SOLDER CONNECTIONS. COMPONENT LEAD DRESS, AND SOLDER SHORTS AROUND PINS 15, 16, AND 17 OF IC300. IF NO SUCCESS REPLACE IC300.

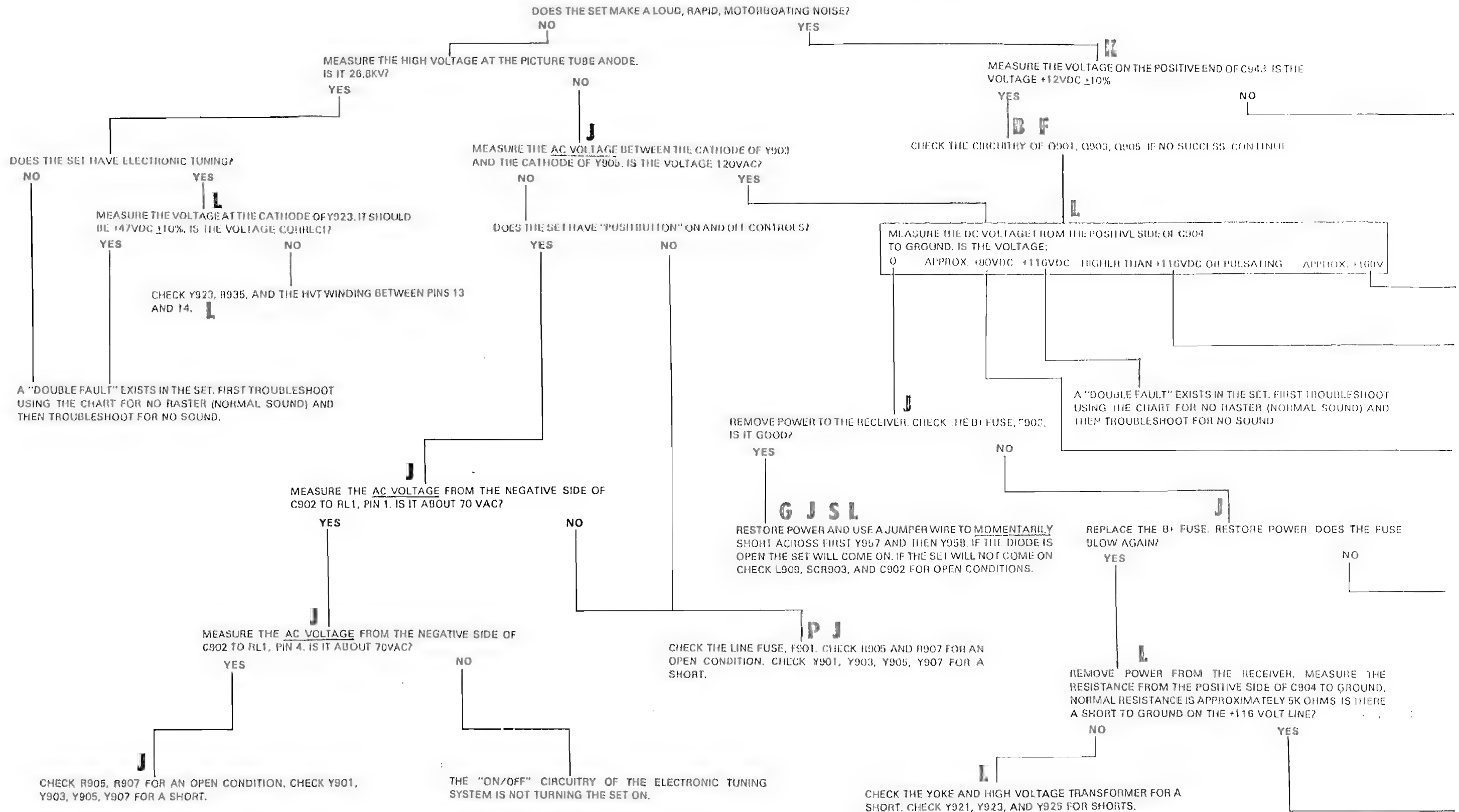
CHECK THE RGB AMPLIFIER STAGES. Q404, Q405, AND Q408 ARE THE MOST LIKELY COMPONENTS TO FAIL. FRONT-TO-BACK RESISTANCE SHOULD BE AT LEAST 10:1 IN CIRCUIT.



NO VERTICAL SWEEP / ABNORMAL VERTICAL SWEEP

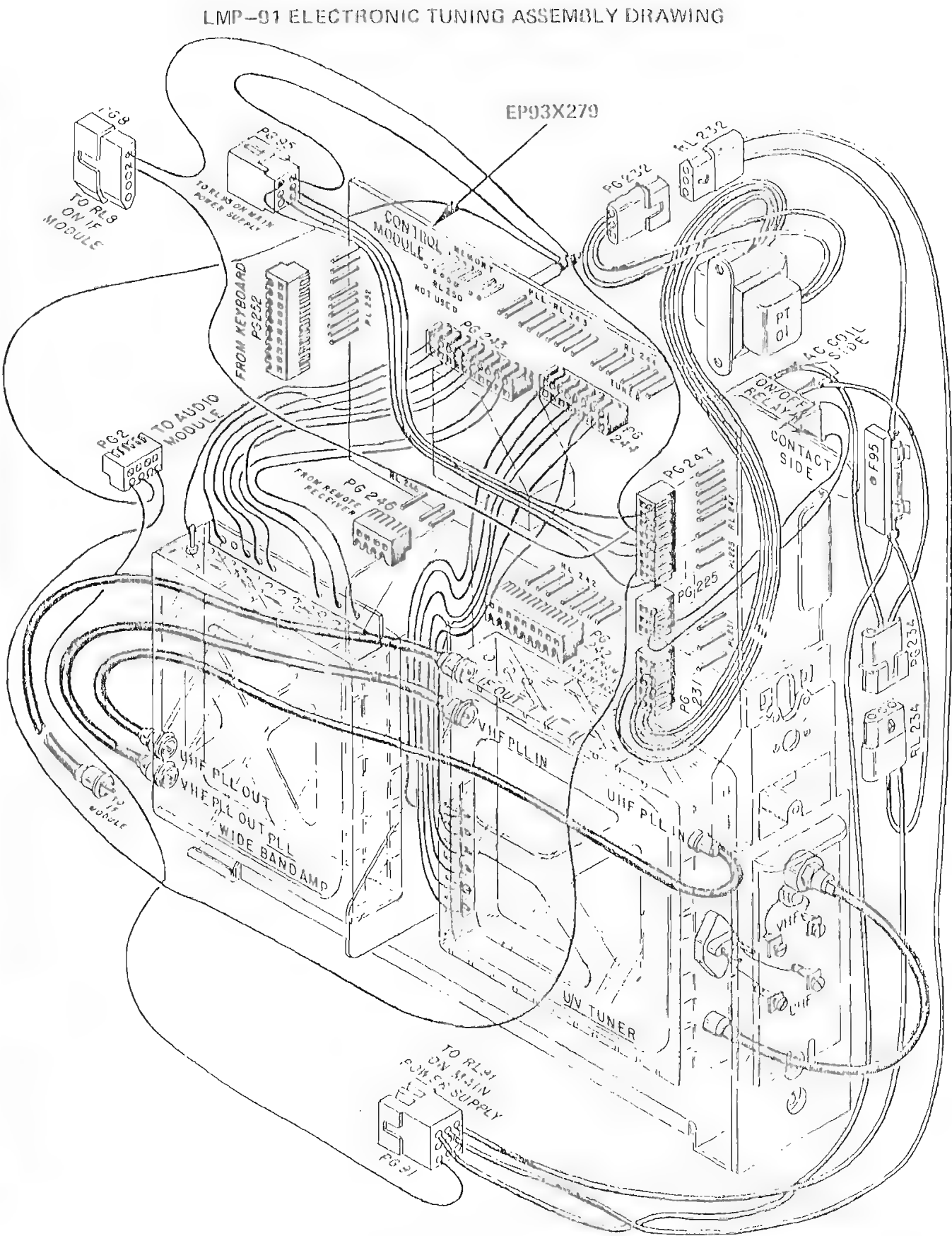


RED LETTERS IDENTIFY CHASSIS LAYOUT GRID FOR COMPONENT LOCATION (SEE PC CHASSIS LAYOUT - THIS PAGE)

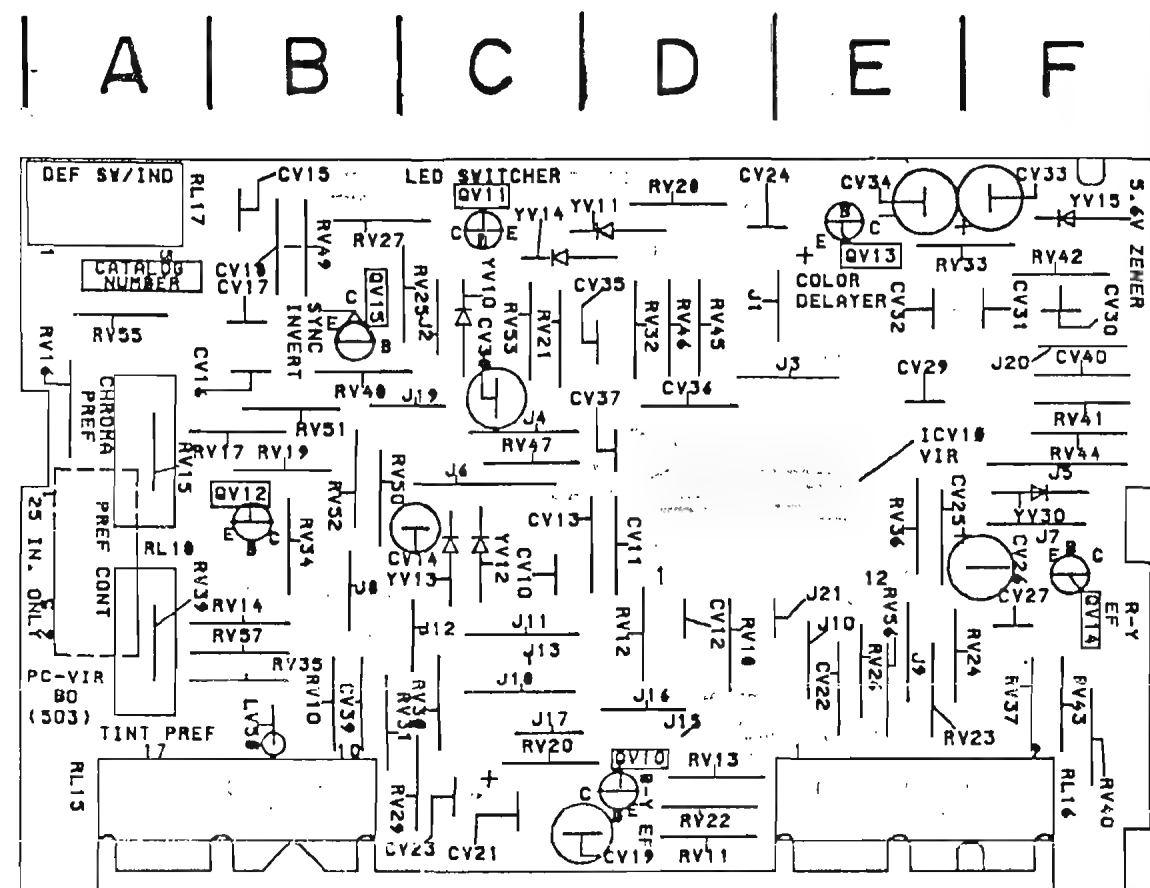


MODULE FUNCTIONS/TROUBLESHOOTING INFORMATION

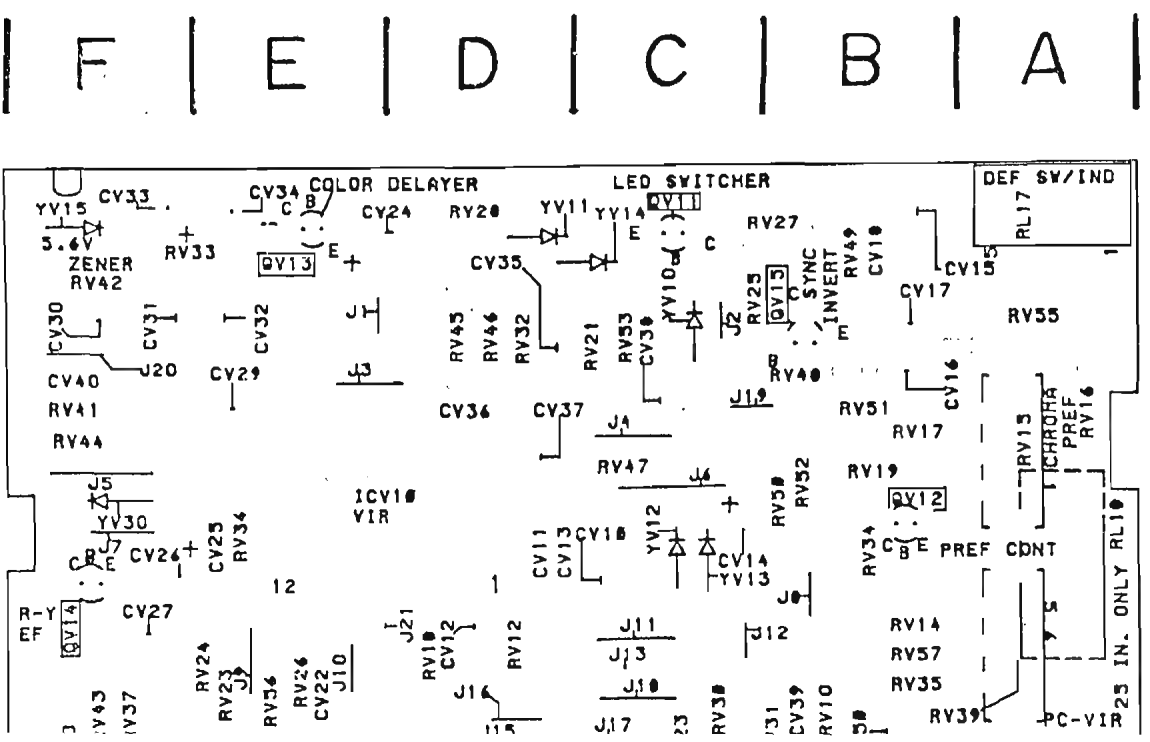
MODULE	INFORMATION
REMOTE TRANSMITTER	<ul style="list-style-type: none">PROVIDES INFRARED REMOTE CONTROL SIGNALPOWERED BY 9 VOLT BATTERYOUTPUT CAN BE DETECTED BY INFRARED DETECTOR CARD (29-0528-77), BY SUBSTITUTION OF A LIGHT EMITTING DIODE FOR ONE OF THE INFRARED EMITTERSCOMPONENTS MOST LIKELY TO FAIL<ul style="list-style-type: none">BATTERYINFRARED EMITTING DIODES
REMOTE RECEIVER MODULE	<ul style="list-style-type: none">DETECTS AND AMPLIFIES THE INFRARED SIGNAL FROM THE REMOTE TRANSMITTERCHANGES IN THE OUTPUT VOLTAGE OF THE REMOTE RECEIVER MODULE CAN BE DETECTED WHEN IT IS ACTIVATED BY A KNOWN GOOD TRANSMITTER
TUNER CONTROL MODULE	<ul style="list-style-type: none">PROVIDES STANDBY POWER (1.9V) TO THE TUNING SYSTEM WHEN RECEIVER IS OFFPROVIDES INTERCONNECTION BETWEEN MAIN CHASSIS AND UHF/VHF TUNERRECEIVES LOGIC INPUTS FROM REMOTE RECEIVER AND SET KEYBOARDPROVIDES DC VOLTAGES TO CONTROL TUNING AND BANDSWITCHING IN THE TUNERPROVIDES A DC CURRENT TO CONTROL SET AUDIOPROVIDES LOGIC FOR CHANNEL TUNING INFORMATIONPROVIDES LOGIC FOR CHANNEL NUMBER DISPLAY INFORMATIONPROVIDES CURRENT TO ACTIVATE ON/OFF RELAYDC VOLTAGE CHECKS USING SCHEMATIC DIAGRAMS IS BEST APPROACHMOST LIKELY COMPONENTS TO FAIL:<ul style="list-style-type: none">121, 122, 123, 124 (PRIMARILY AFFECTS REMOTE CONTROL)IC95 (PRIMARILY AFFECTS BANDSWITCHING, TUNER B+, CHANNEL DISPLAY)
ON/OFF RELAY	<ul style="list-style-type: none">PROVIDES POWER SWITCHING TO TURN THE SET ON AND OFFCONTROLLED BY DC CURRENT FROM TUNER CONTROL MODULEON/OFF SWITCH IS RELAYMOST LIKELY COMPONENTS TO FAIL<ul style="list-style-type: none">RELAY, Q90NOTE ALSO CHECK FUSE, F95
UHF/VHF TUNER	<ul style="list-style-type: none">CHANNEL TUNING, BANDSWITCHING, CONTROLLED BY DC VOLTAGES FROM TUNER CONTROL MODULEPROVIDES IF OUTPUT TO MAIN CHASSISPROVIDES FREQUENCY SAMPLE TO PLL MODULE
PLL MODULE	<ul style="list-style-type: none">RECEIVES FREQUENCY SAMPLE FROM TUNERAMPLIFIES AND DIVIDES FREQUENCY SAMPLEPROVIDES DC VOLTAGES TO CONTROL TUNING AND BANDSWITCHING INFORMATION
READOUT INTERFACE MODULE	<ul style="list-style-type: none">BCD OUTPUT FROM TUNER CONTROL MODULE TO SEVEN SEGMENT DISPLAYMOST LIKELY COMPONENTS TO FAIL<ul style="list-style-type: none">IC10 (PRIMARILY AFFECTS UNITS DISPLAY)IC20 (PRIMARILY AFFECTS TENS DISPLAY)



VIR BOARD (EP93X381) COMPONENT LOCATION



COMPONENT SIDE



CAPACITORS

CV10-B1
CV11-D3
CV12-D3
CV13-D2
CV14-C3
CV15-B1
CV16-A2
CV17-B1
CV19-D4
CV21-C4
CV22-E3
CV23-C4
CV24-D1
CV25-E2
CV26-F3
CV27-F3
CV29-E2
CV38-C2
CV30-F1
CV31-F1
CV32-E1
CV33-F1
CV34-E1
CV35-D1
CV36-D2
CV37-D2
CV39-B3
CV40-F2

RESISTORS

RV10-B3
RV11-D4
RV12-D3
RV13-D4
RV14-B3
RV15-A2
RV16-A2
RV17-B2
RV19-B2
RV28-D1
RV20-C4
RV22-D4
RV23-E4
RV24-F3
RV25-C1
RV26-E3
RV27-B1
RV29-C4
RV30-C3
RV31-B3
RV32-D1
RV33-E1
RV34-B3
RV35-B3
RV36-E2
RV37-F3
RV39-A3
RV40-F4
RV48-B2
RV41-F2
RV42-F1
RV43-F3

DIODES

YV10-C1
YV11-D1
YV12-C3
YV13-C3
YV14-C1
YV15-F1
YV30-F2

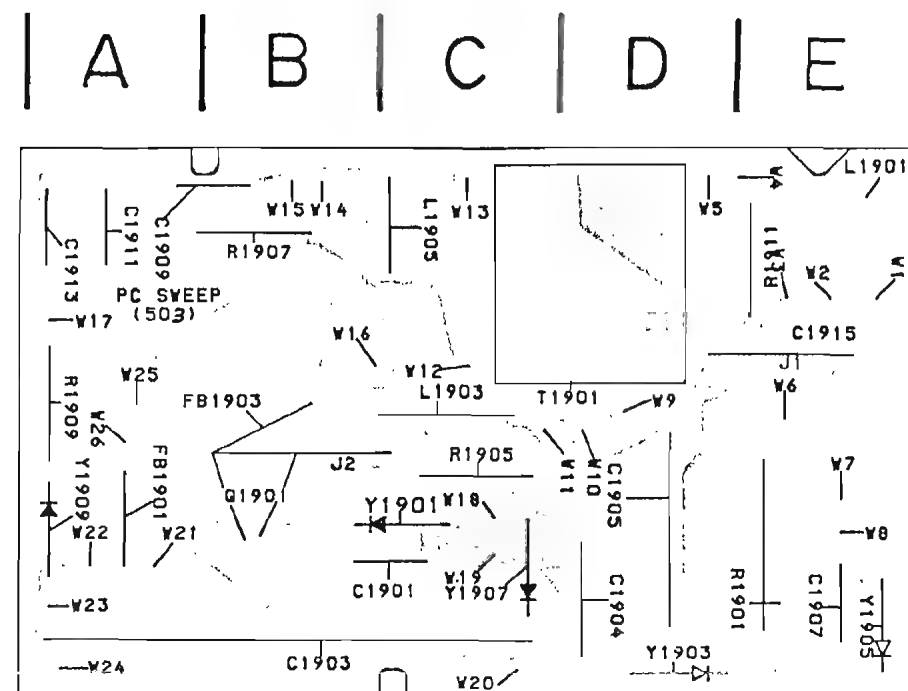
RECEPTACLES

RL10-A3
RL15-A4
RL16-F4
RL17-A1

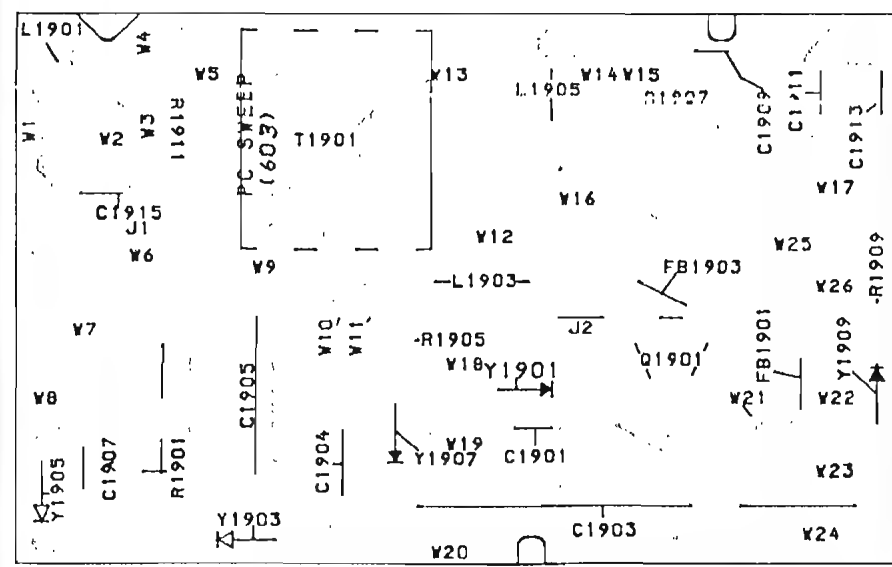
TRANSISTORS

QV10-D4
QV11-C1
QV12-B2
QV13-E1
QV14-F3
QV15-B1

HORIZ. HEAT SINK BOARD (EP93X348) COMPONENT LOCATION



COMPONENT SIDE



COPPER SIDE

CAPACITORS	RESISTORS	FUSE	DIODES
C1901-C3	R1901-E3	FB1901-A2	Y1901-C3
C1903-B3	R1905-C2	FB1903-B2	Y1903-D3
C1904-D3	R1907-B1		Y1905-E3

TRANSISTORS

Q400-B4
Q404-D3
Q406-D3
Q408-D2

CAPACITORS

C403-D3
C404-A4
C406-A4
C410-B4
C416-C3

RESISTORS

R402-C4
R403-A1
R404-A3
R405-C4
R406-A3
R407-C3
R411-A1
R413-A3
R414-D2
R415-B1
R416-D3
R417-C3
R418-D2
R419-B3
R424-A4
R426-A4
R428-B4
R430-B2
R434-A4
R436-A4
R438-B3
R440-A3
R444-A4
R446-A4
R448-B4
R454-D3
R456-D4
R458-D3
R464-C4
R466-C4
R468-D4
R474-C4
R476-C4
R478-D4
R484-A2
R488-A1

COILS

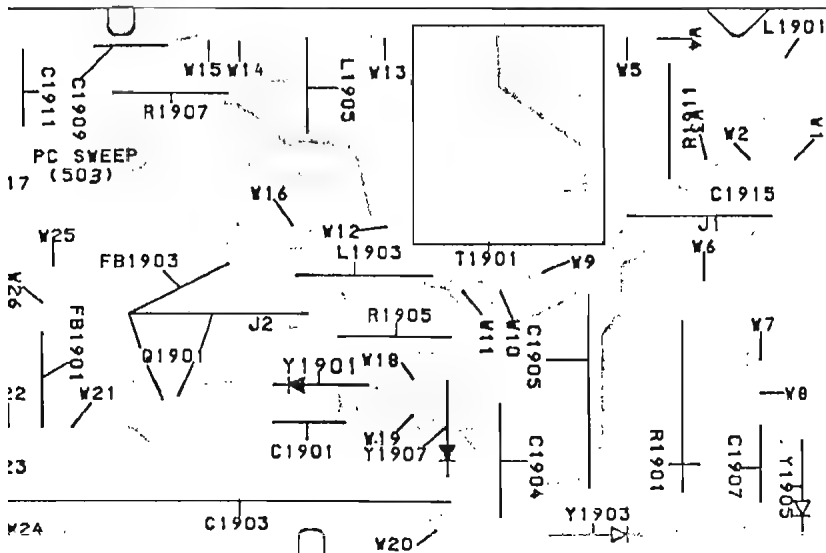
L403-B1

TEST POINTS

TP1-2
DIODE
Y402-C4

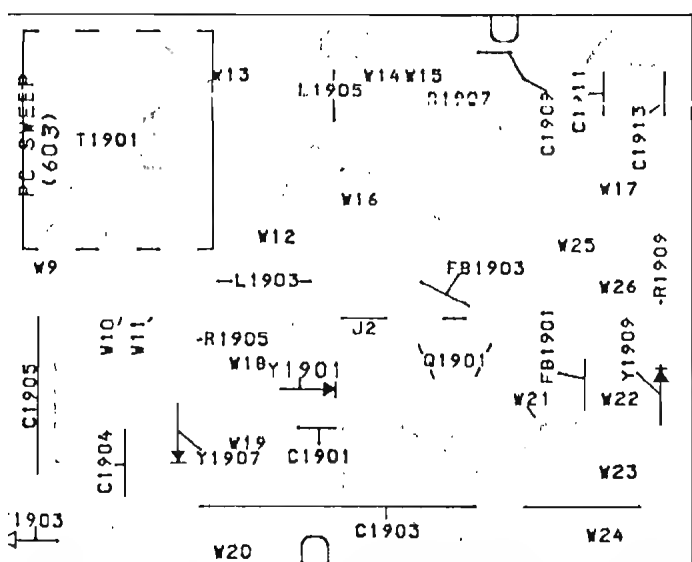
ORIZ. HEAT SINK BOARD (EP93X348) COMPONENT LOCATION

A | B | C | D | E |



COMPONENT SIDE

D | C | B | A |

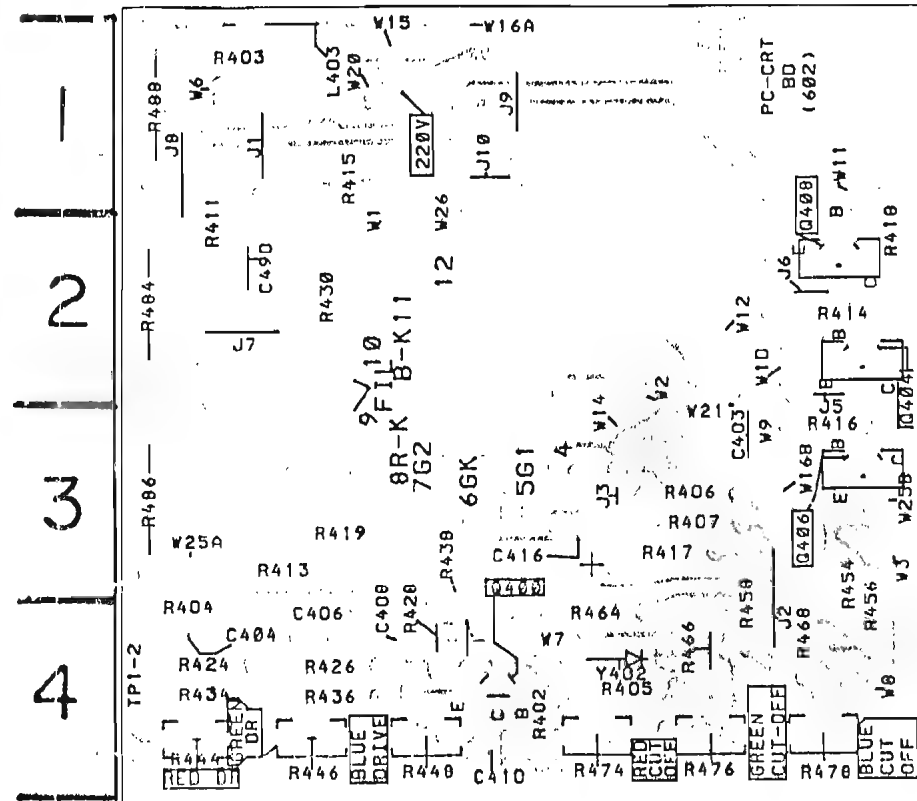


COPPER SIDE

CAPACITORS	RESISTORS	FUSE	DIODES
C1901-C3	R1901-E3	FB1901-A2	Y1901-C3
C1903-B3	R1905-C2	FB1903-B2	Y1903-D3
C1904-D3	R1907-B1		Y1905-E3

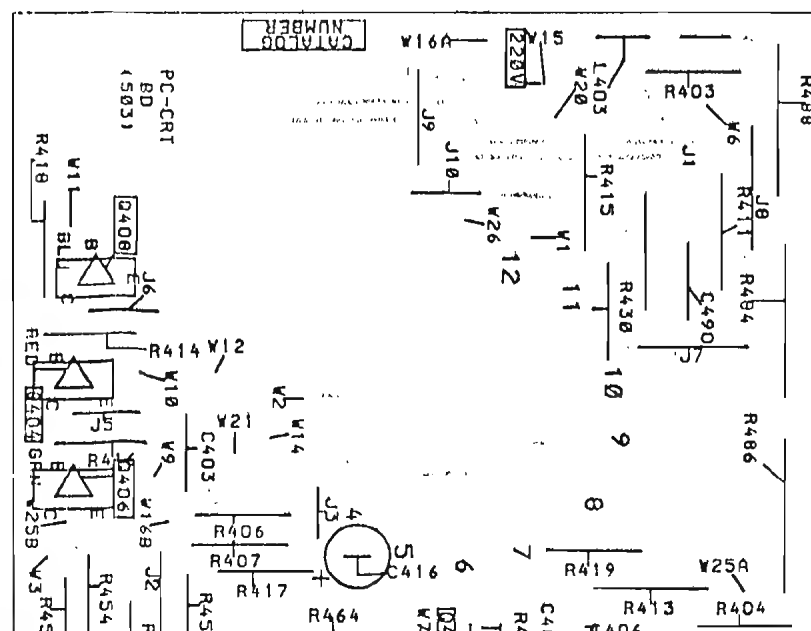
RGB BOARD (EP93X377) COMPONENT LOCATION

A | B | C | D |



COMPONENT SIDE

D | C | B | A |



TRANSISTORS

Q400-B4
Q404-D3
Q406-D3
Q408-D2

CAPACITORS

C403-D3
C404-A4
C406-A4
C410-B4
C416-C3

RESISTORS

R402-C4
R403-A1
R404-A3
R405-C4
R406-A3
R407-C3
R411-A1
R413-A3
R414-D2
R415-B1
R416-D3
R417-C3
R418-D2
R419-B3
R424-A4
R426-A4
R428-B4
R430-B2
R434-A4
R436-A4
R438-B3
R404-A3
R444-A4
R446-A4
R448-B4
R454-D3
R456-D4
R458-D3
R464-C4
R466-D4
R474-C4
R476-C4
R478-D4
R484-A2
R488-A1

COILS

L403-B1

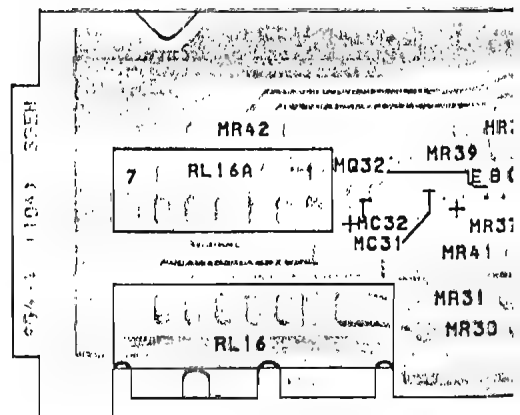
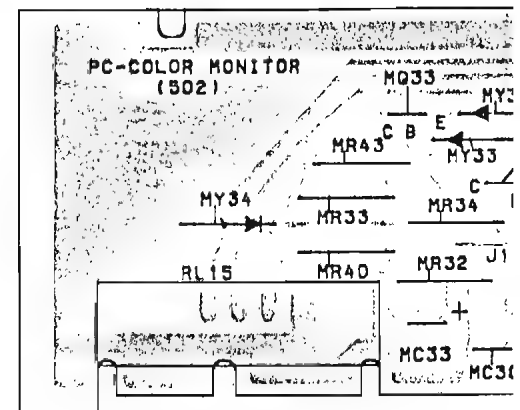
TEST POINTS

TP1-2

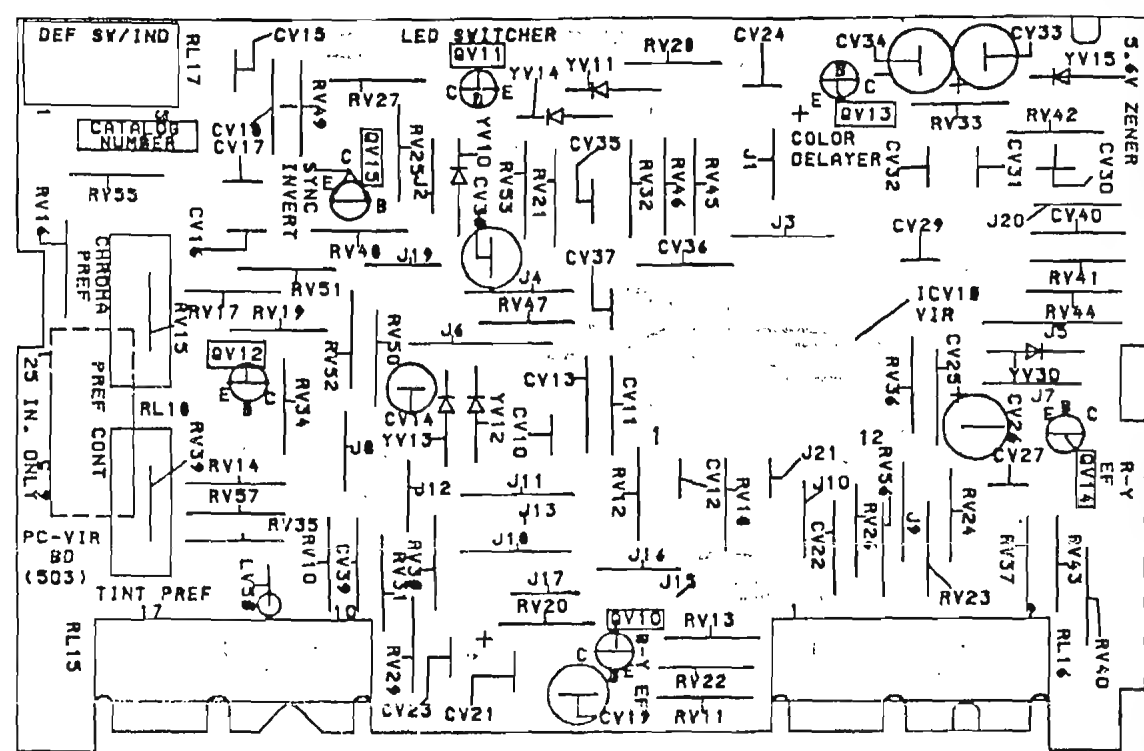
DIODE

Y402-C4

COLOR AVERAGING BOARD

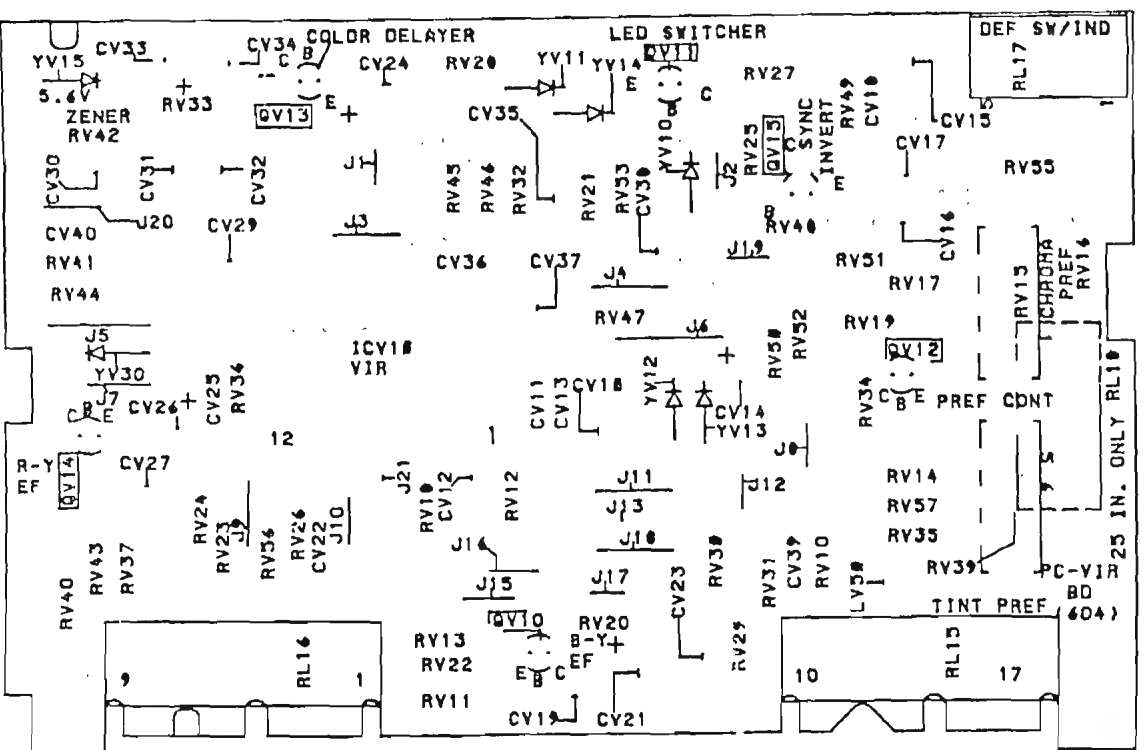


A | B | C | D | E | F



COMPONENT SIDE

F | E | D | C | B | A



COPPER SIDE

CAPACITORS

- CV10-B1
- CV11-D3
- CV12-D3
- CV13-D2
- CV14-C3
- CV15-B1
- CV16-A2
- CV17-B1
- CV19-D4
- CV21-C4
- CV22-E3
- CV23-C4
- CV24-D1
- CV25-E2
- CV26-F3
- CV27-F3
- CV29-E2
- CV38-C2
- CV30-F1
- CV31-F1
- CV32-E1
- CV33-F1
- CV34-E1
- CV35-D1
- CV36-D2
- CV37-D2
- CV39-B3
- CV40-F2

RESISTORS

- RV10-B3
- RV11-D4
- RV12-D3
- RV13-D4
- RV14-B3
- RV15-A2
- RV16-A2
- RV17-B2
- RV19-B2
- RV28-D1
- RV20-C4
- RV22-D4
- RV23-E4
- RV24-F3
- RV25-C1
- RV28-E3
- RV27-B1
- RV29-C4
- RV30-C3
- RV31-B3
- RV32-D1
- RV33-E1
- RV34-B3
- RV35-B3
- RV36-E2
- RV37-F3
- RV39-A3
- RV40-F4
- RV48-B2
- RV41-F2
- RV42-F1
- RV43-F3
- RV44-F2
- RV45-D1
- RV46-D1
- RV47-C2
- RV49-B1
- RV50-B2
- RV51-B2

DIODES

- YV10-C1
- YV11-D1
- YV12-C3
- YV13-C3
- YV14-C1
- YV15-F1
- YV30-F2

RECEPTACLES

- RL10-A3
- RL15-A4
- RL16-F4
- RL17-A1

TRANSISTORS

- QV10-D4
- QV11-C1
- QV12-B2
- QV13-E1
- QV14-F3
- QV15-B1

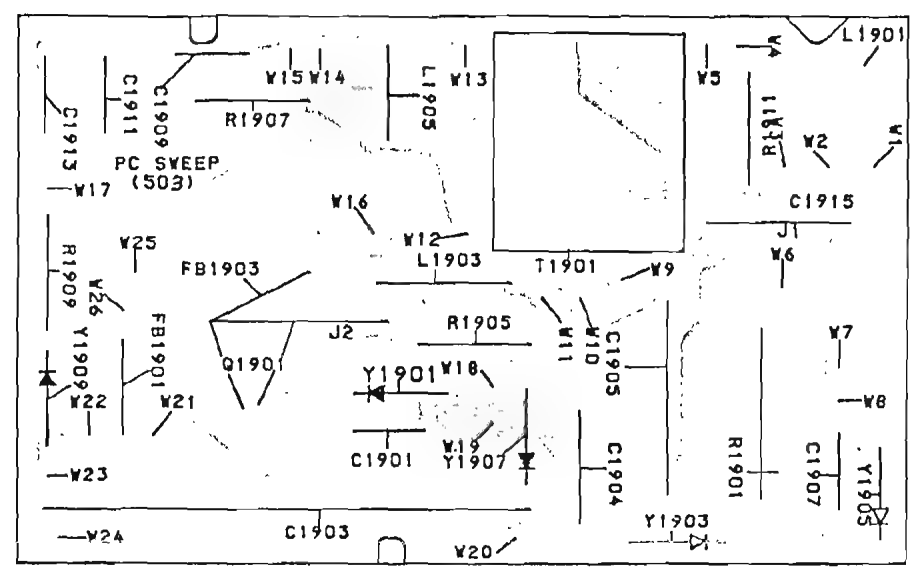
INTEGRATED CIRCUITS

- ICV10-E2

COILS

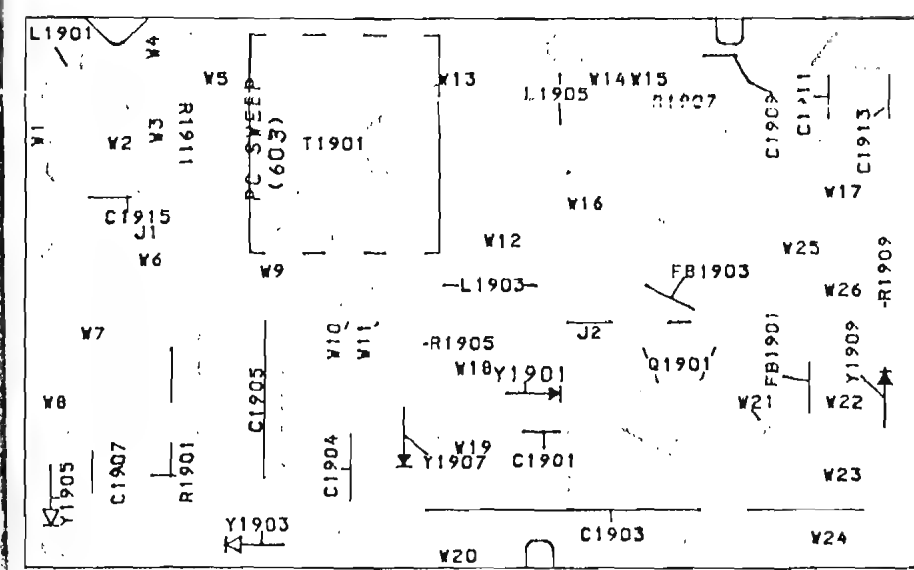
- LV38-B4

A | B | C | D | E



COMPONENT SIDE

E | D | C | B | A



COPPER SIDE

CAPACITORS	RESISTORS	FUSE	DIODES
C1901-C3	R1901-E3	FB1901-A2	Y1901-C3
C1903-B3	R1905-C2	FB1903-B2	Y1903-D3
C1904-D3	R1907-B1		Y1905-E3
C1905-D2	R1909-A2	TRANSISTOR	Y1907-C3
C1907-E3	R1911-E1		Y1909-A2
C1909-A1		TRANSISTOR	
C1911-A1	COILS		TRANSFORMER
C1913-A1	L1901-E1		
C1915-E2	L1903-C2		
	L1905-C1		

TRANSISTORS

- Q400-B4
- Q404-D3
- Q408-D3
- Q408-D2

CAPACITORS

- C403-D3
- C404-A4
- C406-A4
- C410-B4
- C416-C3

RESISTORS

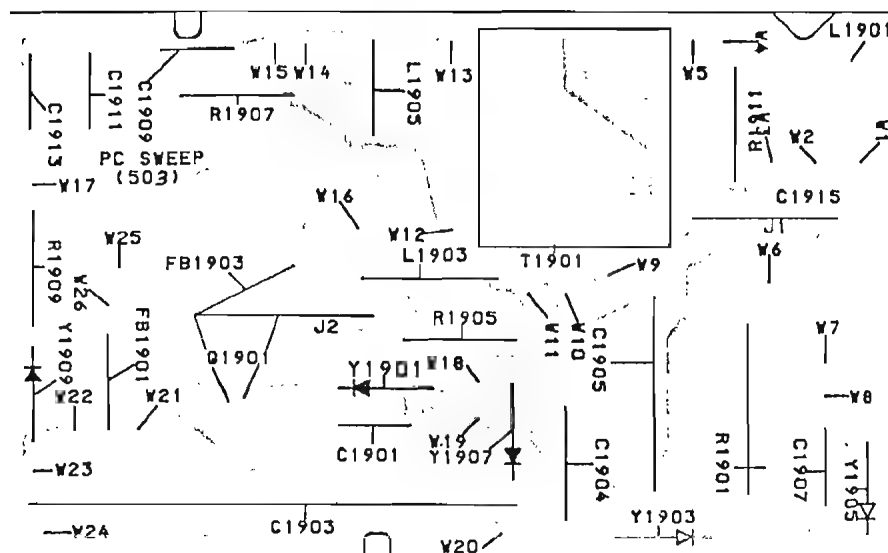
- R402-C4
- R403-A1
- R404-A3
- R405-C4
- R406-A3
- R407-C3
- R411-A1
- R413-A3
- R414-D2
- R415-B1
- R416-D3
- R417-C3
- R418-D2
- R419-B3
- R424-A4
- R428-A4
- R428-B4
- R430-B2
- R434-A4
- R436-A4
- R438-B3
- R404-A3
- R444-A4
- R446-A4
- R448-B4
- R454-D3
- R456-D4
- R458-D3
- R464-C4
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- R478-D4
- R484-A2
- R488-A1

COILS

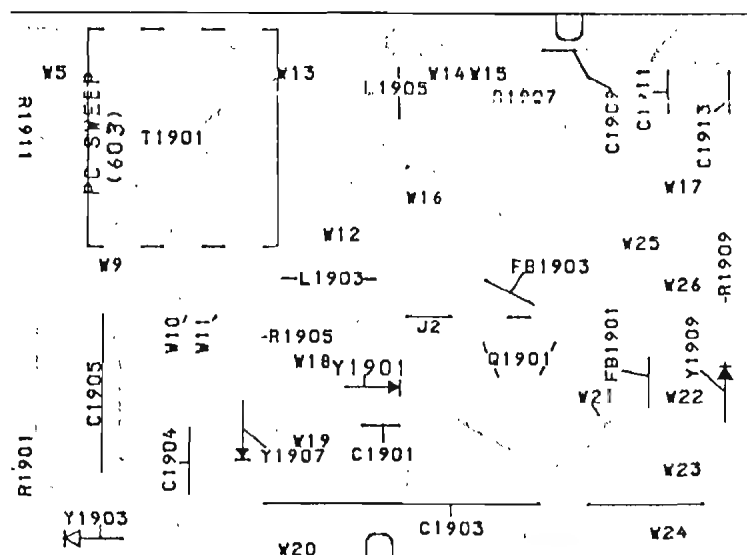
- L403-B1

TEST POINT

- TP1-2
- DIODE
- Y402-C4



COMPONENT SIDE



COPPER SIDE

CAPACITORS	RESISTORS	FUSE	DIODES
C1901—C3	R1901—E3	FB1901—A2	Y1901—C3
C1903—B3	R1905—C2	FB1903—B2	Y1903—D3
C1904—D3	R1907—B1	TRANSISTOR	Y1905—E3
C1905—D2	R1909—A2		Y1907—C3
C1907—E3	R1911—E1		Y1909—A2
C1909—A1	COILS	Q1901—B2	TRANSFORMER
C1911—A1			
C1913—A1			
C1915—E2			
	L1901—E1		T1901—D2
	L1903—C2		
	L1905—C1		

TRANSISTORS

Q400—B4
Q404—D3
Q406—D3
Q408—D2

CAPACITORS

C403—D3
C404—A4
C406—A4
C410—B4
C418—C3

RESISTORS

R402—C4
R403—A1
R404—A3
R405—C4
R406—A3
R407—C3
R411—A1
R413—A3
R414—D2
R415—B1
R416—D3
R417—C3
R418—D2
R419—B3
R424—A4
R426—A4
R428—B4
R430—B2
R434—A4
R436—A4
R43R—B3
R404—A3
R444—A4
R446—A4
R448—B4
R454—D3
R456—D4
R458—D3
R464—C4
R466—C4
R468—D4
R474—C4
R476—C4
R478—D4
R484—A2
R488—A1

COILS

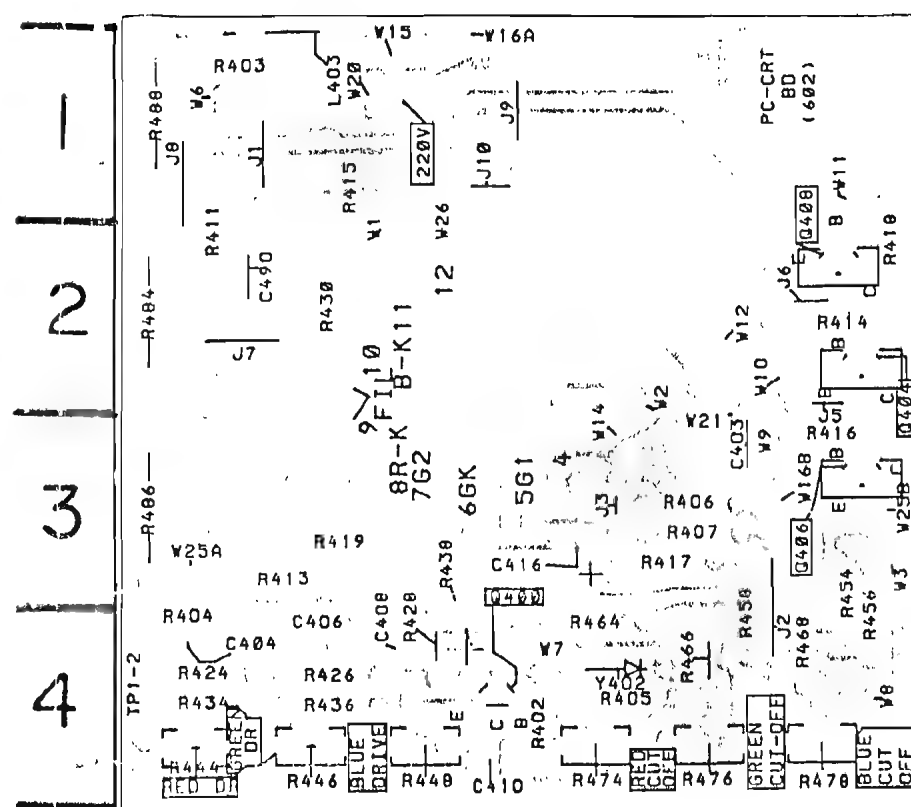
L403-B1

TEST POINTS

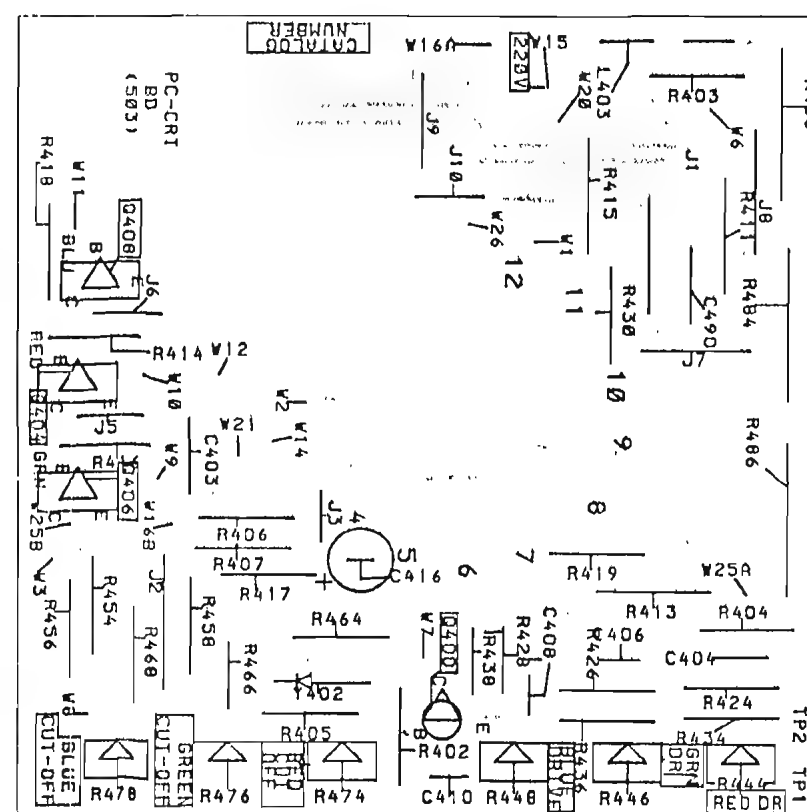
TP1-2

DIODE

Y402-C4

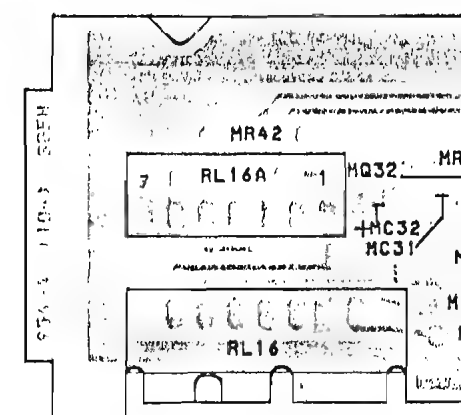
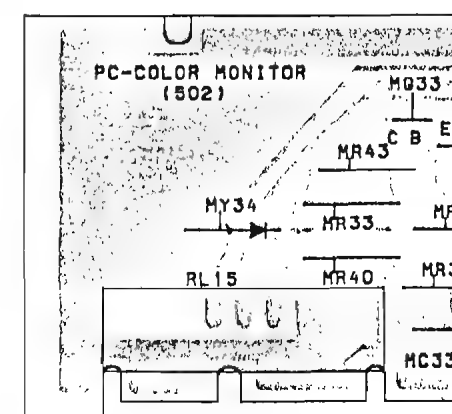


COMPONENT SIDE

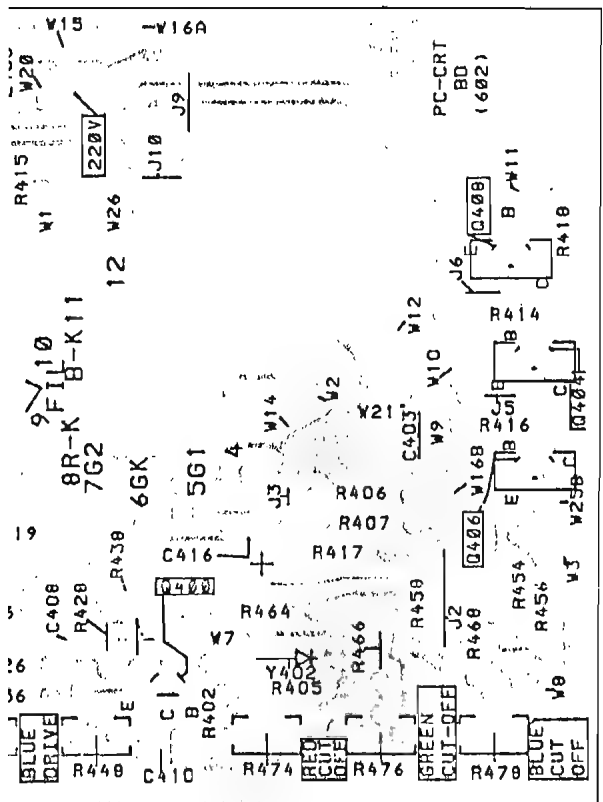


COPPER SIDE

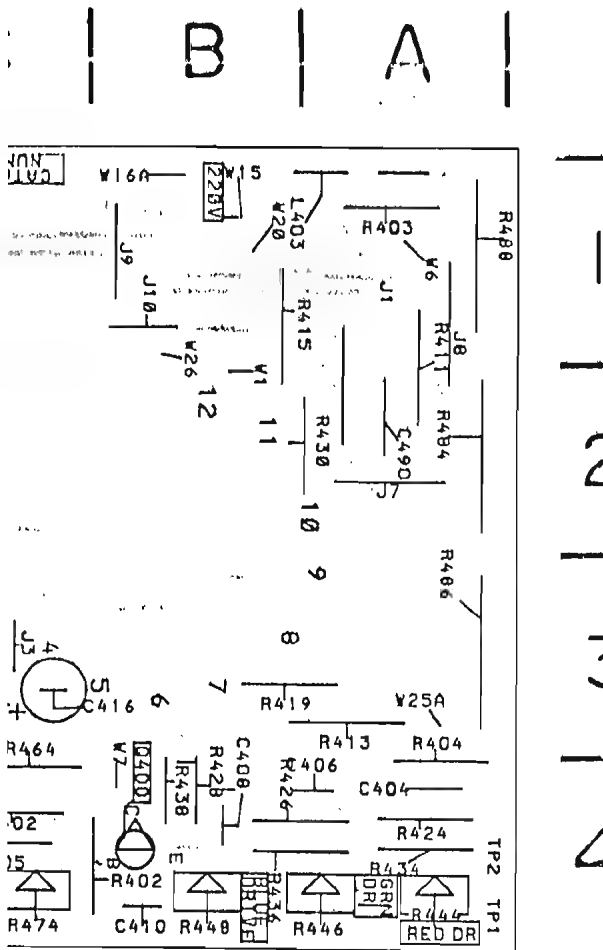
COLOR AVERAGING



B | C | D |



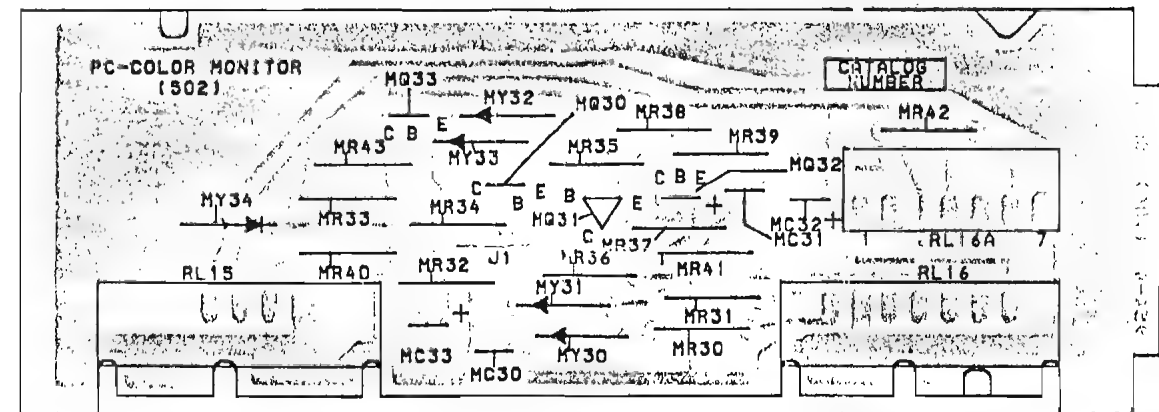
COMPONENT SIDE



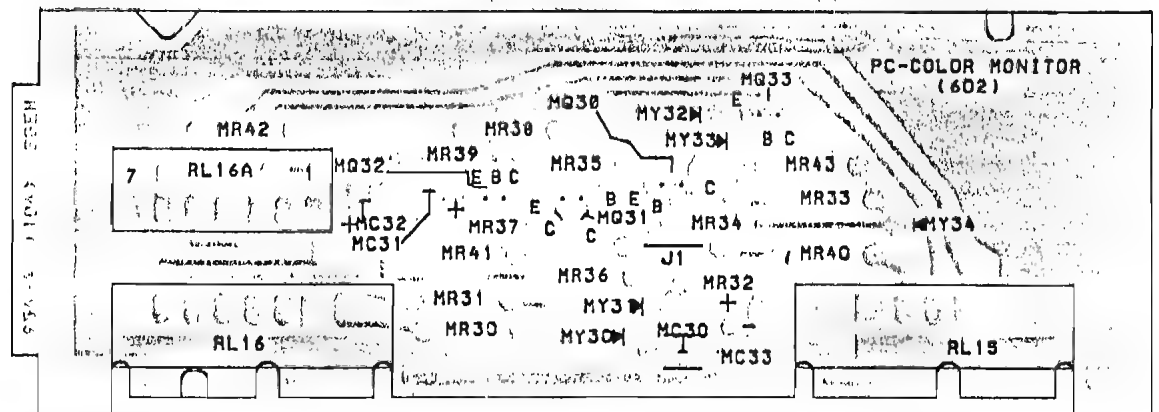
COPPER SIDE

1
2
3
4

COLOR AVERAGING BOARD (EP93X382) COMPONENT LOCATION

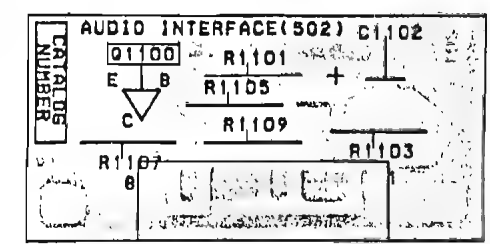


COMPONENT SIDE

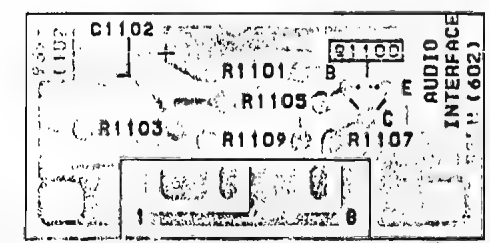


COPPER SIDE

AUDIO INTERFACE BOARD (EP93X383) COMPONENT LOCATION



COMPONENT SIDE

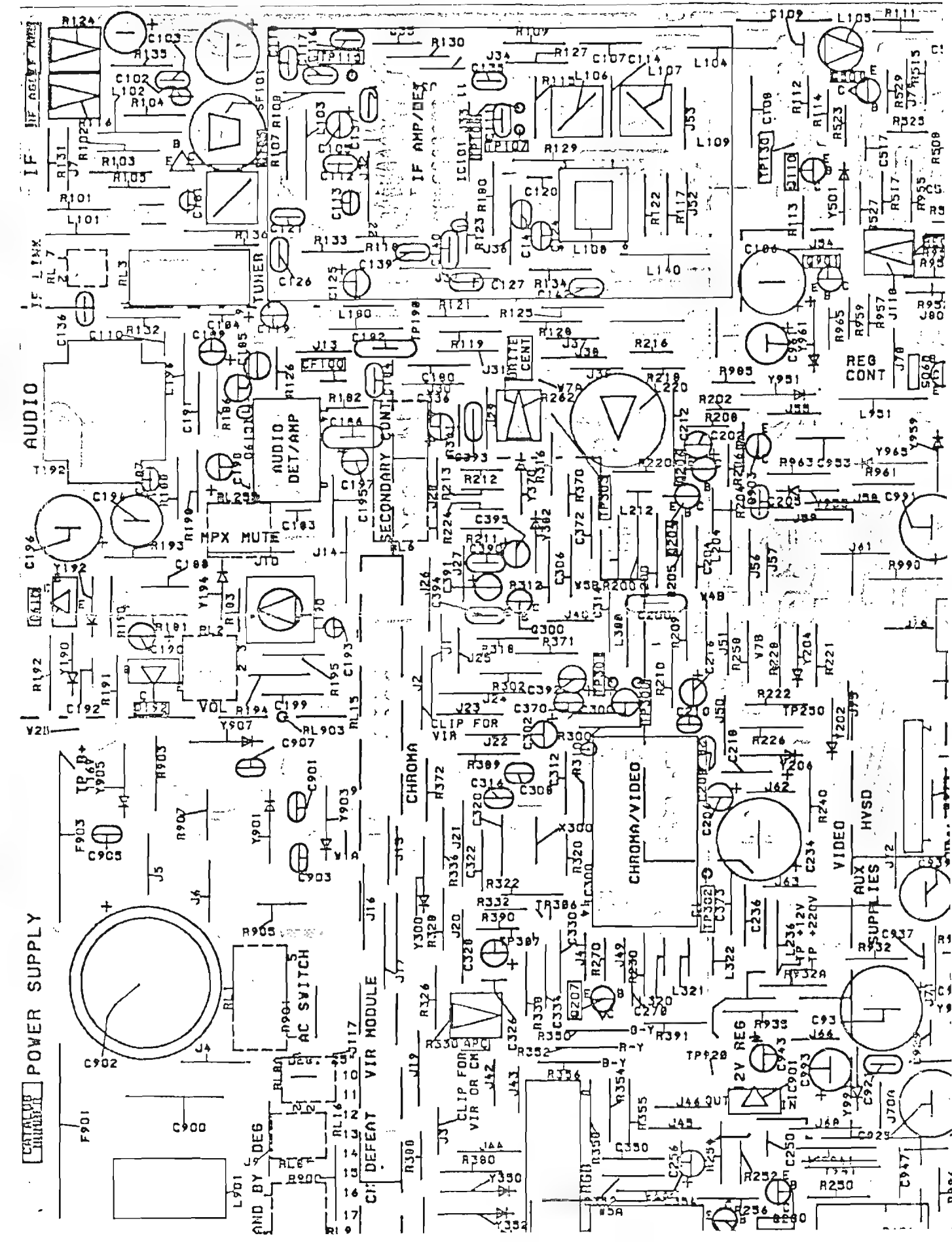


COPPER SIDE

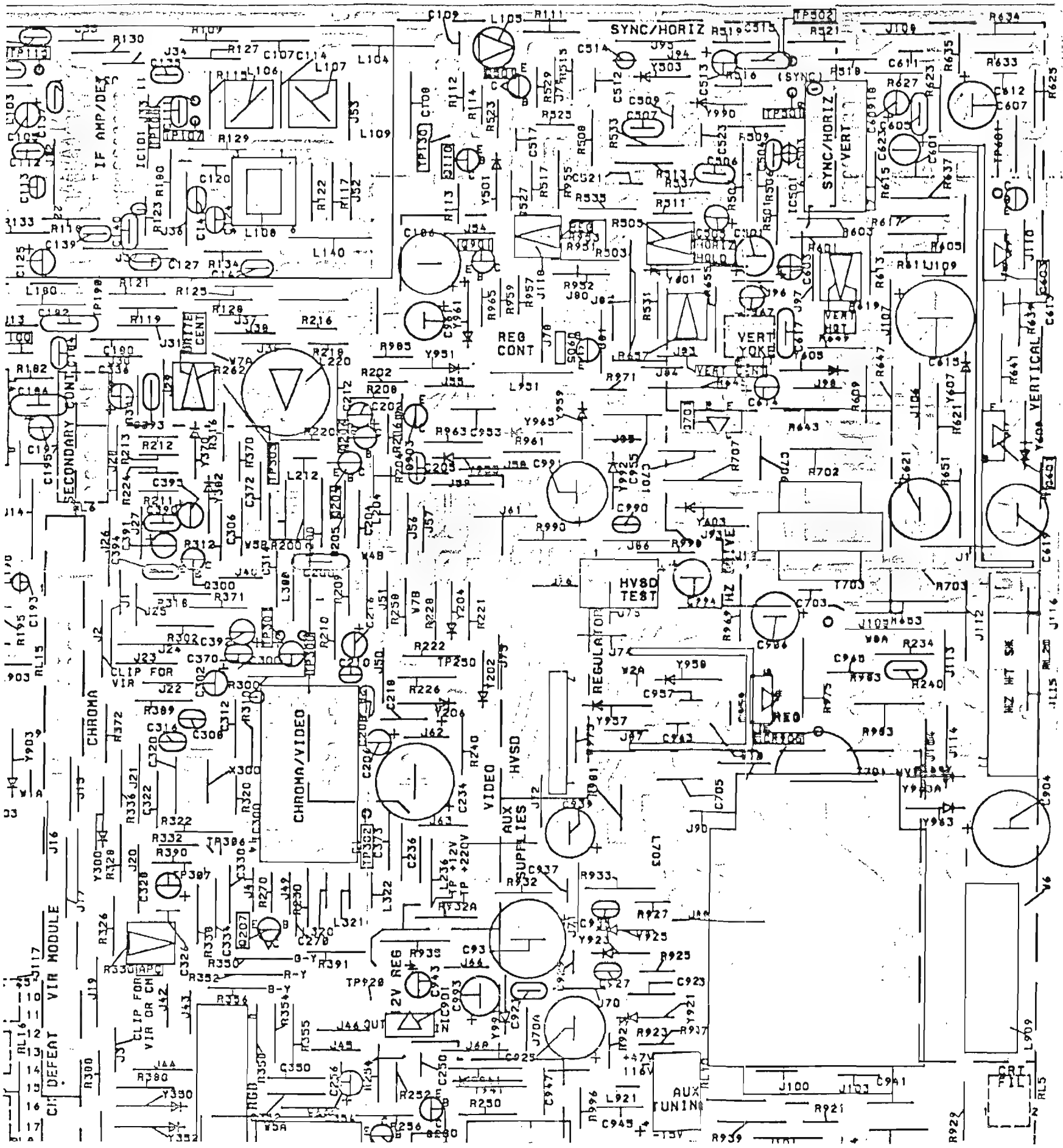
LDR BOARD (EP41X120) COMPONENT



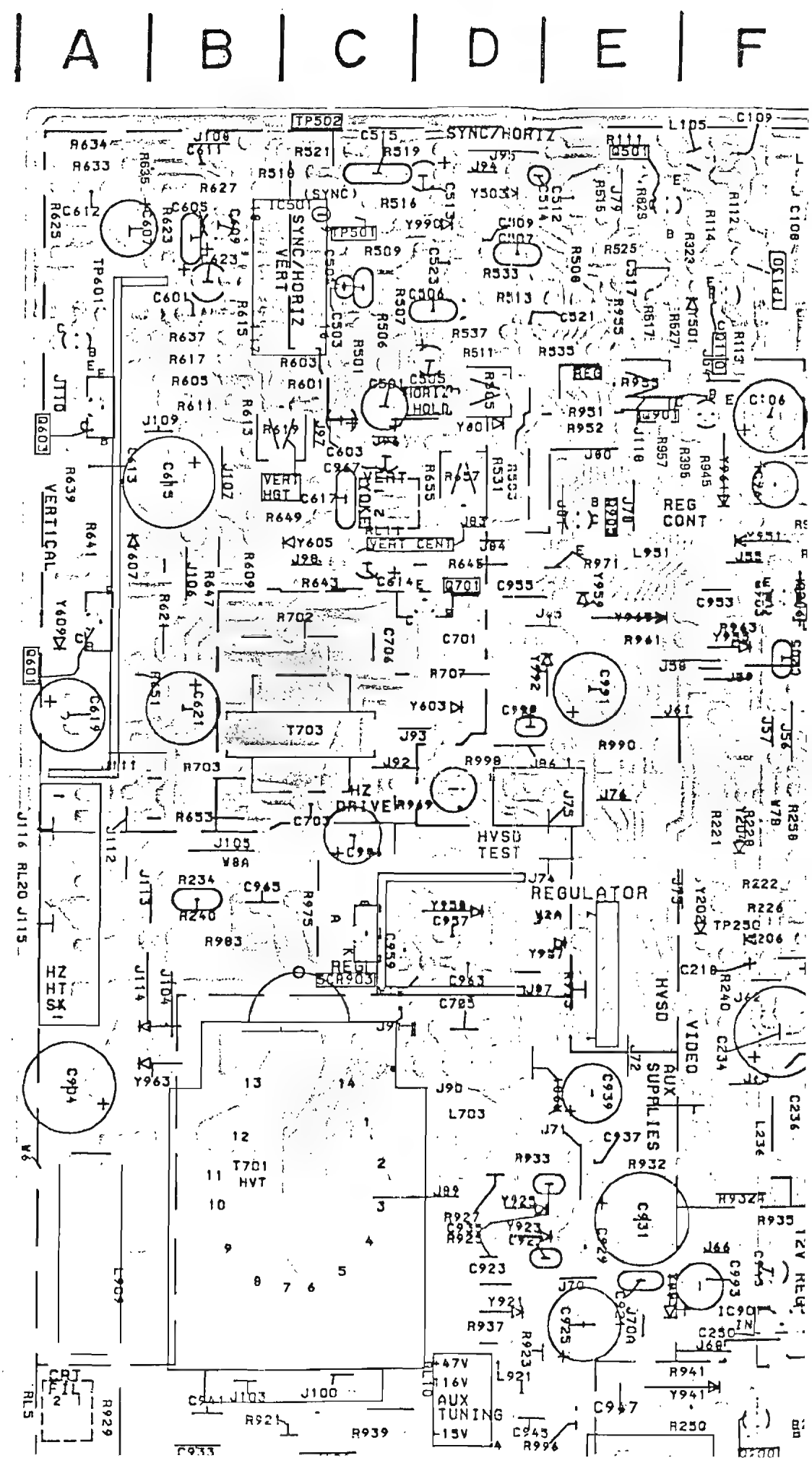
CAPACITORS	C322—J8 C326—H9 C328—J9 C330—H9 C334—H9 C336—J4 C350—G10 C352—G10 C354—G11 C370—H7 C372—H5 C373—G8 C390—J5 C391—J5 C392—H6 C394—J6 C395—J5 C501—C3 C503—C2 C504—C2 C505—D3 C506—D2 C507—D2 C508—D2 C512—E1 C513—D1 C514—D1 C515—C1 C517—E2 C521—E2 C523—D2 C601—B2 C603—C3 C605—B1 C607—A1 C609—B1 C611—B1 C612—A1 C613—A3 C614—C4 C615—B3 C617—C3 C619—A5 C621—B5 C623—B2 C701—D5 C703—C8 C705—D7 C706—C5 C900—L10 C901—K7 C903—K8 C904—A8 C905—M8 C907—K7 C921—E10 C923—D9 C924—B11 C925—E10 C927—D9 C929—E9 C931—E9 C933—B11 C935—E9 C937—E9 C939—E8 C941—B10 C945—D11	C959—C7 C961—F3 C963—D7 C965—B7 C967—C3 C986—C6 C990—D5 C991—E5 C993—F10	RESISTORS R101—M2 R102—L2 R103—M2 R104—L1 R105—L2 R107—K2 R109—H1 R111—E1 R112—F1 R113—F2 R114—F1 R115—H1 R116—M1 R117—G2 R118—J2 R119—J3 R121—J3 R124—M1 R125—H3 R126—K4 R127—H1 R128—H3 R129—H2 R130—J1 R131—M2 R132—L3 R133—K3 R134—H3 R135—L1 R142—M3 R162—K4 R180—H2 R181—L6 R183—L6 R186—L4 R188—L5 R190—M6 R191—M6 R192—M6 R193—L5 R194—K6 R195—K6 R198—L4 R200—G5 R202—G4 R204—G5 R205—G5 R206—G4 R208—G4 R210—G6 R211—J5 R213—J5 R214—G11 R216—G3 R218—G4 R220—G5	R226—F7 R228—F8 R229—E1 R240—F7 R250—F11 R254—G10 R258—F8 R262—H4 R270—H9 R300—G7 R302—H6 R309—H7 R312—H5 R316—H4 R318—H6 R320—H8 R322—H8 R326—J9 R328—H8 R330—J9 R332—H8 R336—J8 R338—H9 R350—H9 R352—H9 R354—H10 R355—G10 R356—H10 R358—H10 R370—H5 R371—H6 R372—J7 R380—J10 R388—J10 R390—H8 R391—G9 R501—C2 R503—D3 R505—D3 R506—C2 R507—C2 R508—E2 R509—C2 R511—D2 R513—D2 R515—E1 R516—C1 R517—E2 R518—B1 R519—C1 R521—C1 R523—F2 R525—E2 R527—E2 R531—D3 R533—D2 R535—E2 R537—D2 R601—C3 R603—C2 R605—B3 R609—B4 R611—B3 R613—B3 R615—B2 R617—B2 R619—B3 R621—B4	R829—E11 R631—E11 R633—A1 R634—A1 R635—A1 R637—B2 R639—A3 R641—A4 R643—C4 R645—D4 R647—B4 R649—B4 R651—B5 R653—B6 R655—D3 R657—D3 R702—C5 R703—B6 R707—D5 R900—K11 R901—K9 R903—L7 R905—K8 R907—L8 R921—C11 R923—D10 R925—D9 R927—D9 R929—A11 R932—E9 R932A—F9 R933—D9 R935—F9 R936—D11 R937—D10 R939—C11 R941—F10 R951—E3 R952—E3 R953—E3 R955—E2 R957—E3 R961—E5 R963—F5 R969—D6 R971—E4 R973—E7 R975—C7 R983—B7 R985—F4 R990—E5 R996—E11 R998—D6	Y603—D5 Y605—C4 Y607—A4 Y609—A5 Y901—K7 Y903—K8 Y905—M7 Y907—L7 Y921—D10 Y923—D9 Y925—D9 Y941—F10 Y951—F4 Y955—F5 Y957—E7 Y959—D7 Y959—E4 Y961—F3 Y963—B8 Y965—E4 Y991—D1	CRYSTAL X301—H8	CERAMIC FILTER CF100—K4	COILS L101—M2 L102—L2 L103—K2 L104—F1 L106—H1 L107—G1 L108—H3 L109—G2 L135—H1 L140—G3 L180—J3 L190—K6 L196—L4 L200—G5 L204—G5 L212—H5 L220—G4 L230—G9 L236—F8 L300—G6 L320—G9 L321—G9 L322—G9 L703—D8 L901—L11 L909—A10 L921—D10 L929—A11 L951—E4	DIODES Y192—M6 Y194—L6 Y198—M6 Y202—F7 Y204—F6 Y206—F7 Y300—J8 Y302—H5 Y350—J11 Y352—J11 Y354—J11 Y370—H5	INTEGRATED CIRCUITS IC101—J2 IC190—L4 IC300—G8 IC501—B1 IC901—F10	TEST POINTS TP107—H2 TP108—J2 TP115—K1 TP130—F2 TP190—J3 TP250—F7 TP300—G6 TP302—G8 TP303—H5 TP306—H8 TP307—H9 TP308—G7 TP501—C1 TP502—C1 TP601—A2 TP970—G9	RECEPTACLES RL1—L9 RL2—L6 RL3—L3 RL4—H11 RL8—K10 RL9—K11 RL10—D10 RL15—K7 RL16—K10 RL20—A6 RL255—L5 RL903—K7	TRANSISTORS Q108—L2 Q110—F2 Q190—M6 Q192—L6 Q200—F11 Q202—F11 Q204—G5 Q207—H9 Q300—H6 Q501—E1 Q601—A5 Q603—A3 Q701—D4 Q901—F3 Q903—F4 Q905—E4
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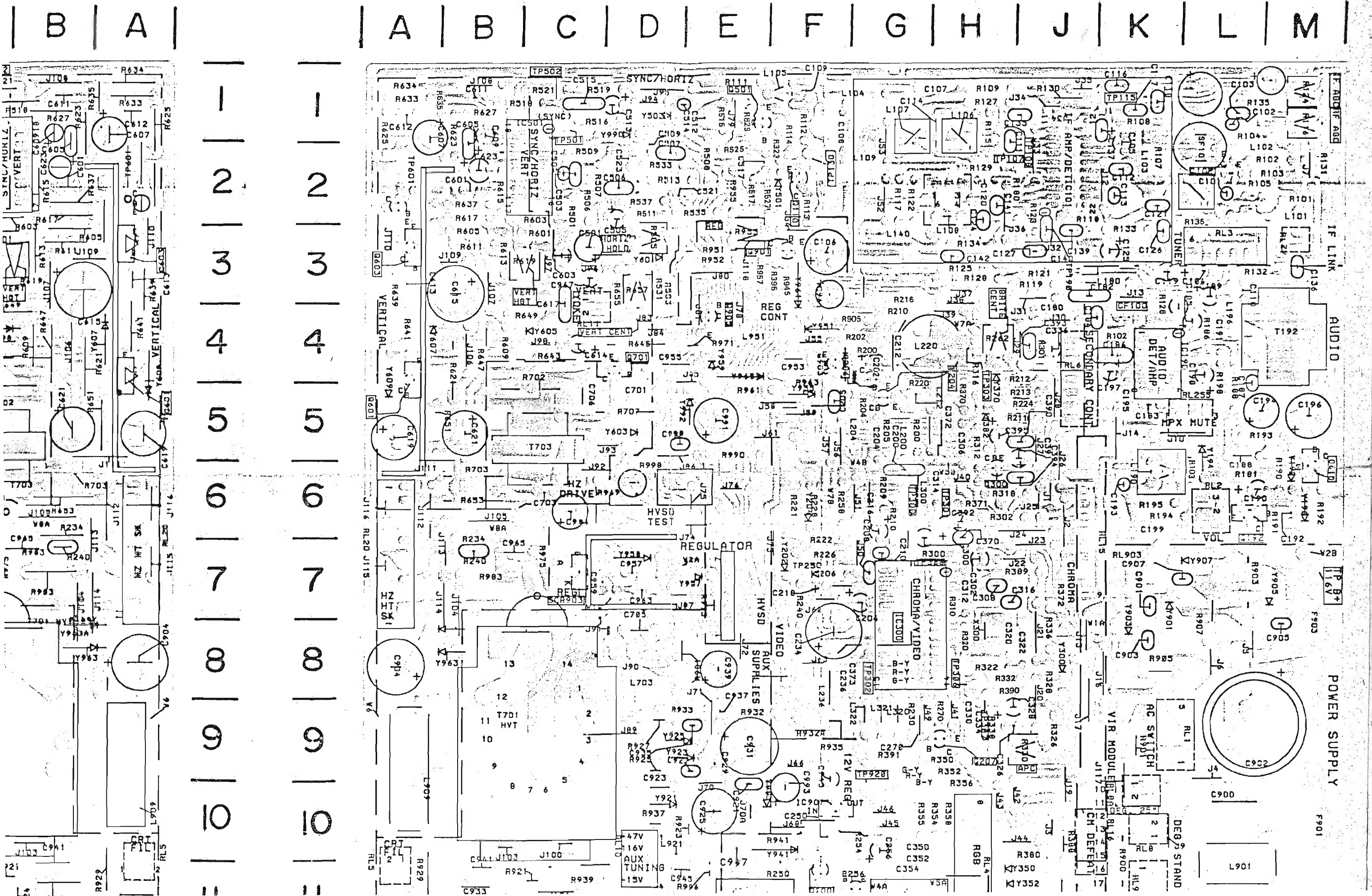


J | H | G | F | E | D | C | B | A



1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10





PC CHASSIS MAIN CIRCUIT BOARD COMPONENT LOCATION

CAPACITORS

C101—L2
C102—L1
C103—M1
C105—K2
C106—F3
C107—G1
C110—L3
C111—J1
C112—K2
C113—K2
C114—G1
C116—K1
C117—K1
C118—K1
C119—K3
C121—K2
C120—H2
C124—H2
C125—K3
C126—K3
C127—J3
C136—M3
C137—K2
C138—J2
C140—J3
C141—H2
C142—H3
C180—J4
C182—J3
C183—K5
C184—L3
C185—L3
C186—K4
C187—L5
C188—L6
C189—L3
C190—L6
C191—L4
C192—M7
C193—K6
C194—L5
C195—K5
C196—M5
C197—K5
C198—L4
C199—K6
C200—G5
C202—G4
C204—G5
C205—F5
C206—G7
C208—G6
C210—G7
C212—G4
C216—G6
C218—F7
C234—F8
C236—F8
C250—F10
C254—G10
C270—G9
C300—H7
C302—H7
C306—H5
C308—H7
C312—H7
C314—H6
C316—H7
C320—H8

C322—J8
C326—H9
C328—J9
C330—H9
C334—H9
C336—J4
C350—G10
C352—G10
C354—G11
C370—H7
C372—H5
C373—G8
C390—J5
C391—J5
C392—H6
C394—J6
C395—J5
C501—C3
C503—C2
C504—C2
C505—D3
C506—D2
C507—D2
C509—D2
C512—E1
C513—D1
C514—D1
C515—C1
C517—E2
C521—E2
C523—D2
C601—B2
C603—C3
C605—B1
C607—A1
C609—B1
C611—B1
C612—A1
C613—A3
C614—C4
C615—B3
C617—C3
C619—A5
C621—B5
C623—B2
C701—D5
C703—C6
C705—D7
C706—C5
C900—L10
C901—K7
C903—K8
C904—A8
C905—M8
C907—K7
C921—E10
C923—D9
C924—B11
C925—E10
C927—D9
C929—E9
C931—E9
C933—B11
C935—E9
C937—E9
C939—E8
C941—B10
C945—D11
C947—E11
C953—F4
C955—D4

C959—C7
C961—F3
C963—D7
C965—B7
C967—C3
C986—C6
C990—D5
C991—E5
C993—F10

RESISTORS

R101—M2
R102—L2
R103—M2
R104—L1
R105—L2
R107—K2
R109—H1
R111—E1
R112—F1
R113—F2
R114—F1
R115—H1
R116—M1
R117—G2
R118—J2
R119—J3
R121—J3
R124—M1
R125—H3
R126—K4
R127—H1
R128—H3
R129—H2
R130—J1
R131—M2
R132—L3
R133—K3
R134—H3
R135—L1
R142—M3
R162—K4
R180—H2
R181—L6
R183—L6
R185—L4
R188—L5
R190—M6
R191—M6
R192—M6
R193—L5
R194—K6
R195—K6
R198—L4
R200—G5
R202—G4
R204—G5
R205—G5
R206—G4
R208—G4
R210—G6
R211—J5
R213—J5
R214—G11
R216—G3
R218—G4
R220—G5
R221—F6
R222—F7
R224—J5

R226—F7
R228—F6
R229—E1
R240—F7
R250—F11
R254—G10
R258—F6
R262—H4
R270—H9
R300—G7
R302—H6
R309—H7
R312—H5
R316—H4
R318—H6
R320—H8
R322—H8
R326—J9
R328—J8
R330—J9
R332—H8
R336—J8
R338—H9
R350—H9
R352—H9
R354—H10
R355—G10
R356—H10
R358—H10
R370—H5
R371—H6
R372—J7
R380—J10
R388—J10
R390—H8
R391—G9
R501—C2
R503—D3
R505—D3
R506—C2
R507—C2
R508—E2
R509—C2
R511—D2
R513—D2
R515—E1
R516—C1
R517—E2
R518—B1
R519—C1
R521—C1
R523—F2
R525—E2
R527—E2
R531—D3
R533—D2
R535—E2
R537—D2
R601—C3
R603—C2
R605—B3
R609—B4
R611—B3
R613—B3
R615—B2
R617—B2
R619—B3
R621—B4
R623—G1
R625—A1
R627—B1

R629—E11
R631—E11
R633—A1
R634—A1
R635—A1
R637—B2
R639—A3
R641—A4
R643—C4
R645—D4
R647—B4
R649—B4
R651—B5
R653—B6
R655—D3
R657—D3
R702—C5
R703—B6
R707—D5
R900—K11
R901—K9
R903—L7
R905—K8
R907—L8
R921—C11
R923—D10
R925—D9
R927—D9
R929—A11
R932—E9
R932A—F9
R933—D9
R935—F9
R936—D11
R937—D10
R939—C11
R941—F10
R951—E3
R952—E3
R953—E3
R955—E2
R957—E3
R961—E5
R963—F5
R969—D6
R971—E4
R973—E7
R975—C7
R983—B7
R985—F4
R990—E5
R996—E11
R998—D6

DIODES

Y192—M6
Y194—L6
Y198—M6
Y202—F7
Y204—F6
Y206—F7
Y300—J8
Y302—H5
Y350—J11
Y352—J11
Y354—J11
Y370—H5
Y501—F2
Y503—D1
Y601—D3

Y603—D5
Y605—C4
Y607—A4
Y609—A5
Y901—K7
Y903—K8
Y905—M7
Y907—L7
Y921—D10
Y923—D9
Y925—D9
Y941—F10
Y951—F4
Y955—F5
Y957—E7
Y959—D7
Y959—E4
Y961—F3
Y963—B8
Y963—E4
Y991—D1

CRYSTAL

X301—H8

CERAMIC FILTER

CF100—K4

COILS

L101—M2
L102—L2
L103—K2
L104—F1
L106—H1
L107—G1
L108—H3
L109—G2
L135—H1
L140—G3
L180—J3
L190—K6
L196—L4
L200—G5
L204—G5
L212—H5
L220—G4
L230—G9
L236—F8
L300—G6
L320—G9
L321—G9
L322—G9
L703—D8
L901—L11
L909—A10
L921—D10
L929—A11
L951—E4

TRANSFORMERS

T192—M4
T701—B9
T703—C5

SAW FILTER

SF10—L2

INTEGRATED CIRCUITS

IC101—J2
IC190—L4
IC300—G8
IC501—B1
IC901—F10

TEST POINTS

TP107—H2
TP108—J2
TP115—K1
TP130—F2
TP190—J3
TP250—F7
TP300—G6
TP302—G8
TP303—H5
TP306—H8
TP307—H9
TP308—G7
TP501—C1
TP502—C1
TP601—A2
TP901—G9

RECEPTACLES

RL1—L9
RL2—L6
RL3—L3
RL4—H11
RL8—K10
RL9—K11
RL10—D10
RL15—K7
RL16—K10
RL20—A6
RL255—L5
RL903—K7

TRANSISTORS

Q108—L2
Q110—F2
Q190—M6
Q192—L6
Q200—F11
Q202—F11
Q204—G5
Q207—H9
Q300—H6
Q501—E1
Q601—A5
Q603—A3
Q701—D4
Q901—F3
Q903—F4
Q905—E4

